
2.6HP
OUTBOARD MOTOR
OWNER'S MANUAL

To the owner:

To ensure safety using and enjoyment, please read this manual carefully before operation and keep the manual . A thorough understanding of this manual will help you operate and maintain the engine.

Thank you for choosing our outboard motor.

This manual may be minor discrepancies between your machine and this manual as we keep seeking new improvement in product quality. If you have any question about the operation or maintenance of your outboard motor, please consult us or our dealer.

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Safety information

Observe these precautions at all times.

Rotating parts

Hands, feet, hair, jewelry, clothing, PFD

straps, etc. can become entangled with internal rotating parts of the engine, resulting in serious injury or death.

Keep the top cowling in place whenever possible. Do not remove or replace the cowling with the engine running.

Only operate the engine with the cowling removed according to the specific instructions in the manual.

Keep hands, feet, hair, jewelry, clothing, PFD straps, etc. away from any exposed moving parts.

Hot parts

During and after operation, engine parts are hot enough to cause burns. Avoid touching any parts under the top cowling until the engine has cooled.

Electric shock

Do not touch any electrical parts while starting or operating the engine. They can cause shock or electrocution.

Engine shut-off cord

Attach the engine shut-off cord so that the engine stops if the operator falls overboard or leaves the helm. This prevents the boat from running away under power and leaving people stranded, or running over people or objects.

Always attach the engine shut-off cord to a secure place on your clothing or your arm or leg while operation. Do not remove it to leave the helm while the boat is moving. Do not attach the cord to clothing that could tear loose, or route the cord where it could become entangled, preventing it from functioning.

Do not route the cord where it is likely to be accidentally pulled out. If the cord is pulled during operation, the engine will shut off and you will lose most steering control. The boat could slow rapidly, throwing people and objects

forward.

Gasoline

Gasoline and its vapors are highly flammable and explosive. Always, refuel according to the procedure on page 16 to reduce the risk of fire of fire and explosion.

Gasoline exposure and spills

Take care not to spill gasoline. If gasoline spills, wipe it up immediately with dry rags. Dispose of rags properly.

If any gasoline spills onto your skin, immediately wash with soap and water. Change clothing if gasoline spills on it.

If you swallow gasoline, inhale a lot of gasoline vapor, or get gasoline in your eyes, get immediate medical attention. Never siphon fuel by mouth.

Carbon monoxide

This product emits exhaust gases which contain carbon monoxide, a colorless, odorless gas which may cause brain damage or death when inhaled. Symptoms include nausea, dizziness, and drowsiness. Keep cockpit and cabin areas well ventilated. Avoid blocking exhaust outlets.

Modifications

Do not attempt to modify this outboard motor. Modifications to your outboard motor may reduce safety and reliability, and render the outboard unsafe or illegal to use.

Boating safety

wakes.

This section includes a few of the many **Overloading** important safety precautions that you should follow when boating. Do not overload the boat. Consult the boat capacity plate or boat manufacturer for maximum weight and number of passengers.

Alcohol and drugs Never operate after drinking alcohol or taking drugs. Intoxication is one of the most common factors contributing to boating fatalities. Besure that weight is properly distributed according to the boat manufacturers instructions. Overloading or incorrect weight distribution can compromise the boats handling and lead to an accident, capsizing or swamping.

Personal flotation devices Have an approved personal flotation device (PFD) on board for every occupant. Recommends that you must wears a PFD WHENEVER boating. At a minimum, children and non-swimmers should always wear PFDS, and everyone should wear PFDs when there are potentially hazardous boating conditions.

Avoid collisions **Scan constantly** for people, objects, and other boats. Be alert for conditions that limit your visibility or block your vision of others.

Operate defensively at safe speeds and keep a safe distance away from people, objects, and other boats.

People in the water Do not follow directly behind other boats or waterskiers.

Always watch carefully for people in the water, such as swimmers, skiers, or divers, whenever the engine is running. When someone is in the water near the boat, shift into neutral and shut off the motor. Avoid sharp turns or other maneuvers that make it hard for others to avoid you or understand where you are going.

Stay away from swimming areas. Swimmers can be hard to see. Avoid areas with submerged objects or shallow water.

The propeller can keep moving even when the motor is in neutral. Shut off the engine when a person is in the water near you. Ride within your limits and avoid aggressive maneuvers to reduce the risk of loss of control, ejection and collision.

Emu33750 **Take early action** to avoid collisions. Remember, **boats do not have brakes**, and stopping the engine or reducing throttle can reduce the ability to steer. If you are not sure that you can stop in time before hitting an obstacle, apply throttle and turn in another direction.

Passengers Consult your boat manufacturer's instructions for details about appropriate passenger locations in your boat and be sure all passengers are positioned properly before accelerating and when operating above an idle speed. Standing or sitting in non-designated locations may result in being thrown either overboard or within the boat due to waves, wakes, or sudden changes in speed or direction.

Even when people are positioned properly alert your passengers if you must take any unusual maneuver. Always avoid jumping waves or

Weather

Stay informed about the weather. Check weather forecasts before boating. Avoid boating in hazardous weather.

EMU33880

Passenger training

Make sure at least one other passenger is trained to operate the boat in the event of an emergency.

EMU33890

Boating safety publications

Be informed about safety. Additional publications and information can be obtained from many boating organizations.

EMU33600

Laws and regulations

Know the marine laws and regulations where you will be boating and obey them. Several sets of rules prevail according to geographic locations, but all are basically the same as the informational Rules of the Road.

Fueling instructions

WARNING

GASOLINE AND ITS VAPORS ARE HIGHLY FLAMMABLE AND EXPLOSIVE!

1. Do not smoke when refueling, and keep away from sparks, flames, or other sources of ignition.
2. Stop engine before refueling.
3. Refuel in a well-ventilated area.
4. Take care not to spill gasoline. If gasoline spills, wipe it up immediately with dry rags.
5. Do not overfill the fuel tank.
6. Tighten the filler cap securely after refueling.
7. If you should swallow some gasoline, inhale a lot of gasoline vapor, or get gasoline in your eyes, get immediate medical attention.
8. If any gasoline spills onto your skin, immediately wash with soap and water. Change clothing if gasoline spills on it.
9. Touch the fuel nozzle to the filler opening or funnel to help prevent electrostatic sparks.

ECM00010

CAUTION:

Use only new clean gasoline which has been stored in clean containers and is not contaminated with water or foreign matter.

GASOLINE

Recommended gasoline: Regular unleaded gasoline
--

If knocking or pinging occurs, use a different brand of gasoline or premium unleaded fuel. If unleaded gasoline is not available, then premium gasoline can be used.

Engine oil

Recommended engine oil: 2-strokes outboard motor oil
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If the recommended engine oil is not available, another 2-stroke engine oil with an NMMA-certified TC-W3 rating may be used.
EMU33550

Installation requirements

EMU33560

Boat horsepower rating

Before installing the outboard motor(s), confirm that the total horsepower of your motor(s) does not exceed the boat maximum horsepower rating. See the boat's capacity plate or contact the manufacturer.

EWM01560

!WARNING

Overpowering a boat can cause severe instability.

EMU33570

Mounting motor

Your dealer or other person experienced in proper rigging should mount the motor using correct equipment and complete rigging instructions. For further information, see page 12.

EWM01570

!WARNING

Improper mounting of the outboard motor could result in hazardous conditions such as poor handling, loss of control, or fire hazards.

Because the motor is very heavy, special equipment and training is required to mount it safely.

Propeller selection

Next to selecting an outboard, choosing the right propeller is one of the most important purchasing decisions a boater can make. The

Type, size, and design of your propeller have a direct impact on acceleration, top speed, fuel economy, and even engine life. HYFONE designs and manufactures propellers for every HYFONG outboard motor and every application.

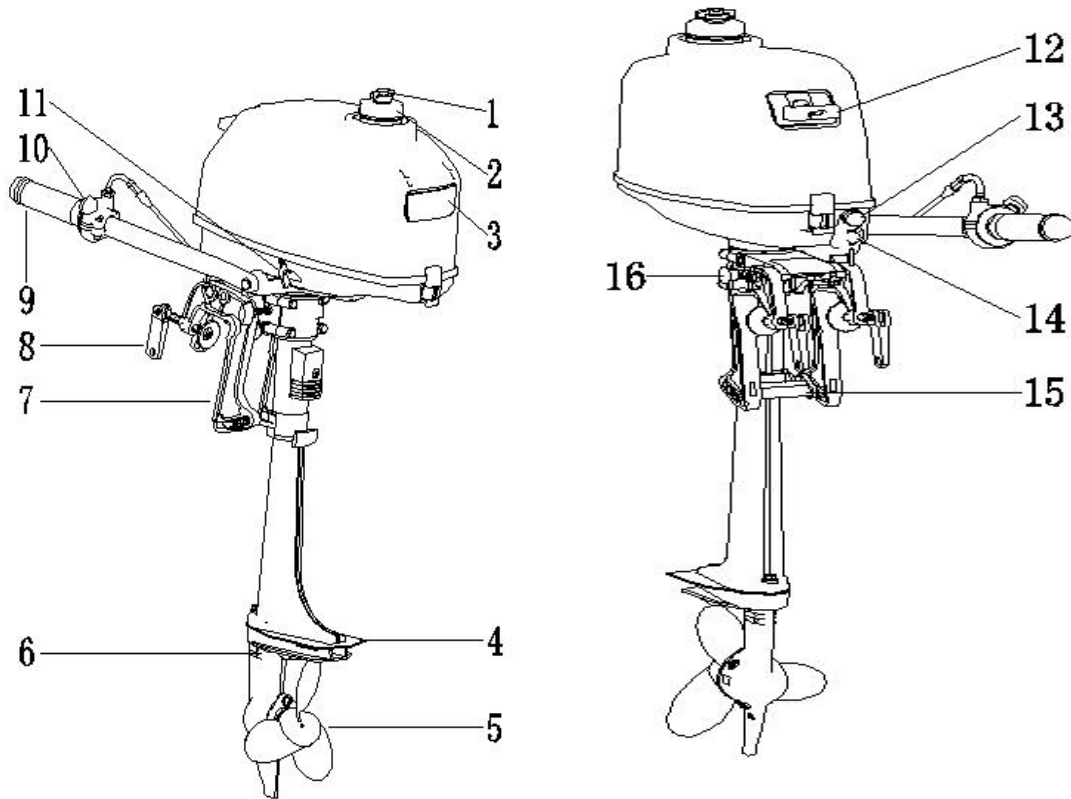
Your outboard motor came with a propeller chosen to perform well over a range of applications, but there may be uses where a different propeller would be more appropriate. Your dealer can help you select the right propeller for your boating needs. Select a propeller that will allow the engine to reach the middle or upper half of the operating range at full throttle with the maximum boatload. Generally, choose a larger pitch propeller that lets the engine run in the proper range for your maximum load but remember that you may need to reduce your throttle setting to stay within the recommended engine speed range when carrying lighter loads.

For instructions on propeller removal and installation, see page 32.

1. Propeller diameter in inches
2. Propeller pitch in inches
3. Type of propeller (propeller mark)

Main components

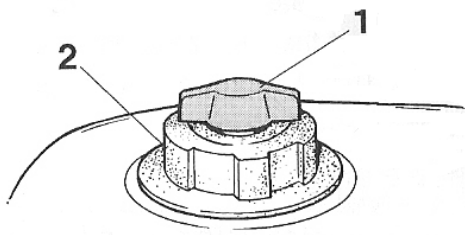
*May not be exactly as shown;also may not be included as standard equipment on all model.



1. Air vent screw
2. Fuel tank cap
3. Top cowling
4. Anti-cavitation plate
5. Propeller
6. Cooling water inlet
7. Clamp bracket
8. Clamp screw
9. Throttle lever
10. adjuster bolt(lock the throttle)
11. Fuel cock
12. Starter
13. choke
14. Engine stop button/Engine shut-off switch
15. trim rod
16. Tilt support knob

Fuel tank

If your model included a fuel tank,its parts and functions are as follows.



1. Air vent screw
2. Fuel tank cap

Fuel tank cap

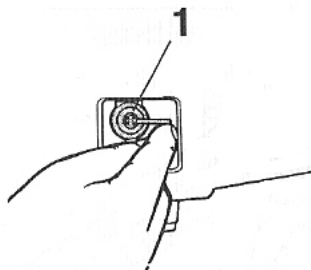
This cap seals the fuel tank. When removed, the tank can be filled with fuel. To remove the cap, turn it counterclockwise.

Air vent screw

This screw is on the fuel tank cap. To loosen the screw, turn it counterclockwise.

Fuel cock

The fuel cock turns on and off the supply of fuel from the fuel tank to the engine.

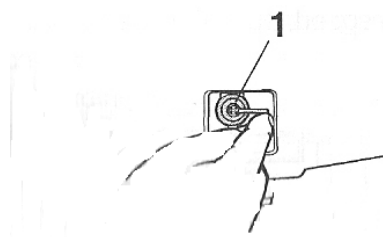


1. Fuel cock

Close

To stop fuel flow to the engine, turn the lever or knob to close position.

Always turn the lever or knob to close position when the engine is not running.

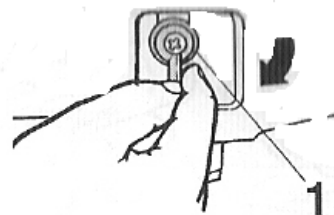


1. Close position

Open

With the lever/knob in this position, fuel flows to the carburetor.

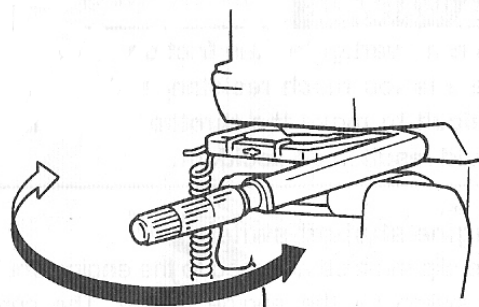
Normal running is done with the lever/knob in this position.



1. Open position

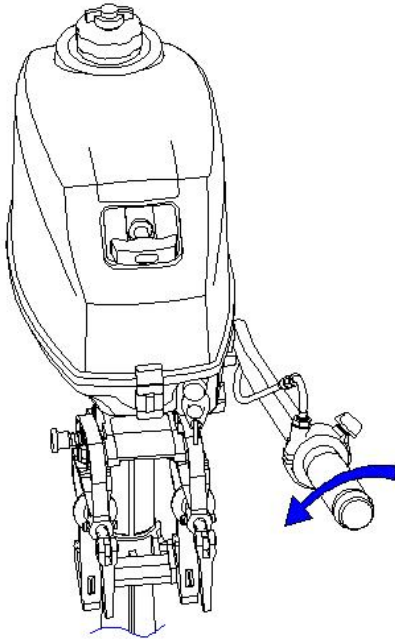
Tiller handle

To change direction, move the tiller handle to the left or right as necessary.



Throttle lever

To increase speed,turn throttle grip in left.



When constant speed is desired,tighten the adjuster bolt to maintain the desired throttle setting.

Engine shut-off switch

The clip must be attached to the engine shut-off switch for the engine to run.The cord should be attached to a secure place on the operator's clothing,or arm or leg.Should the operator fall overboard or leaver the helm,the cord will pull out the clip,stopping ignition to the engine.This will prevent the boat from running away under power.

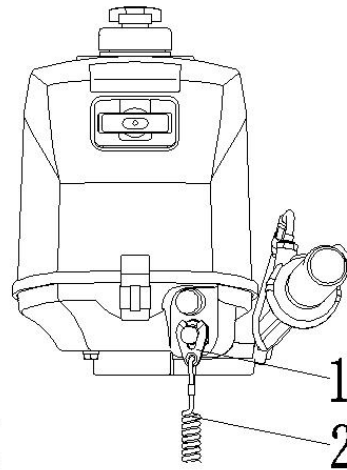
WARNING

- **Attach the engine shut-off cord to a secure place on your clothing,or your arm or leg while operating.**
- **Do not attach the cord to clothing that could tear loose.Do not route the cord where it could become entangled,preventing it from functioning.**
- **Avoid accidentally pulling the cord during normal operation.Loss of engine power**

means the loss of most steering contro.Also,without engine power,the boat could slow rapidly.This could cause people and objects in the boat to be thrown forward.

NOTE:

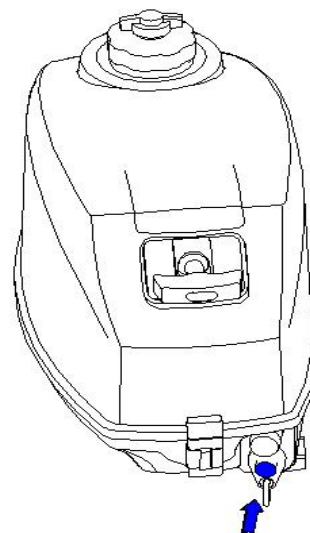
The engine cannot be started with the clip removed.



1. clip
2. cord

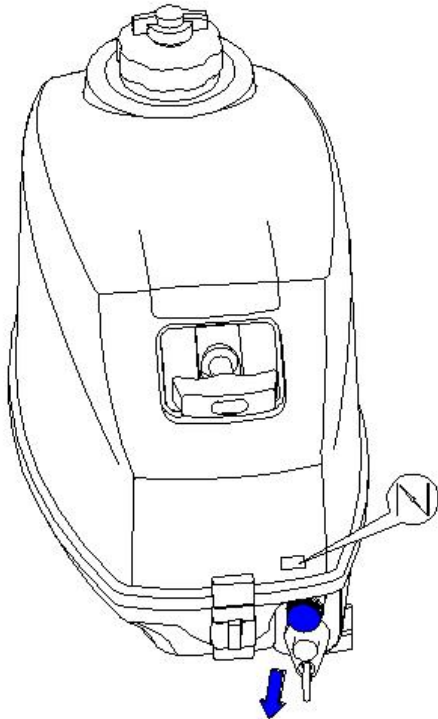
Engine stop button

To open the ignition circuit and stop the engine,push this button.



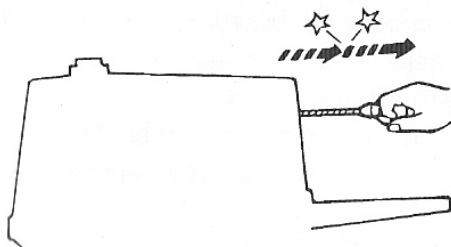
Choke knob

To supply the engine with the rich fuel mixture required to start, Pull out this knob



Manual starter handle

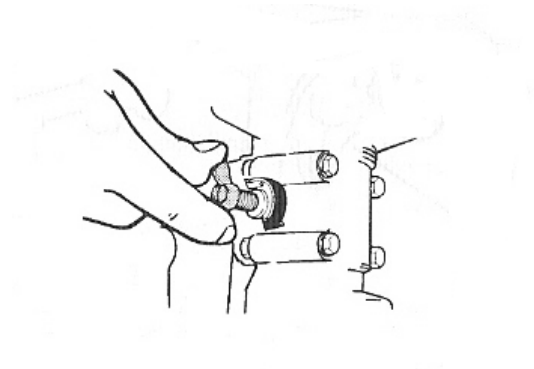
To start the engine, first gently pull the handle out until resistance is felt. From that position, then pull the handle straight out quickly to crank the engine.



Steering friction adjuster

A friction device provides adjustable

resistance to the steering mechanism, and can be set according to operator preference. An adjusting screw or bolt is located on the swivel bracket.



To increase resistance, turn the adjuster clockwise.

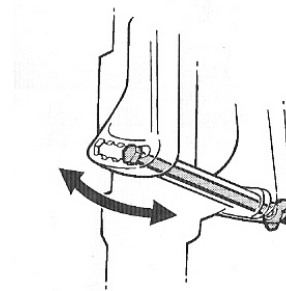
To decrease resistance, turn the adjuster counterclockwise.

WARNING

Do not over tighten the friction adjuster. If there is too much resistance, it could be difficult to steer, which could result in an accident.

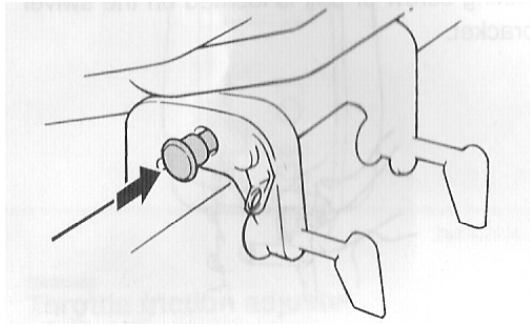
Trim rod (tilt pin)

The position of the trim rod determines the minimum trim angle of the outboard motor in relation to the transom.



Tilt support knob

To keep the outboard motor in the tilted up position, push the tilt support knob under the wivel bracket.

**CAUTION:** _____

Do not use the tilt support lever or knob when trailering the boat. The outboard motor could shake loose from the tilt support and fall. If the motor cannot be trailered in the normal running position, use an additional support device to secure it in the tilt position.

Installation

The information presented in this section is intended as reference only. It is not possible to provide complete instructions for every possible boat and motor combination. Proper mounting depends in part on experience and the specific boat and motor combination.

WARNING

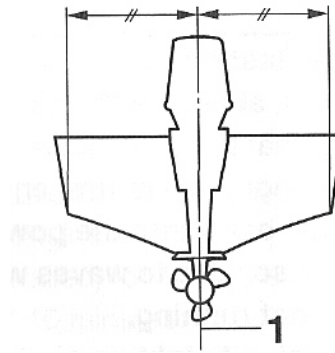
- **Overpowering a boat could cause severe instability. Do not install an outboard motor with more horsepower than the maximum rating on the capacity plate of the boat. If the boat does not have a capacity plate, consult the boat manufacturer.**
- **Improper mounting of the outboard motor could result in hazardous conditions such as poor handling, loss of control, or fire hazards. For permanently mounted models, your dealer or other person experienced in proper rigging should mount the motor.**

Mounting the outboard motor

WARNING

Your dealer or other person experienced in proper outboard motor mounting should show you how to mount your outboard motor.

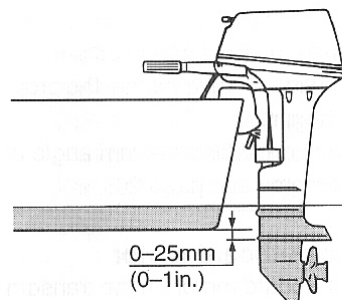
The outboard motor should be mounted so that the boat is well balanced. Otherwise, the boat could be hard to steer. For single-engine boat, mount the outboard motor on the centerline (keel line) of the boat.



1. center line (keel line)

Mounting height

To run your boat at optimum efficiency, the water resistance (drag) of the boat and outboard motor must be made as little as possible. The mounting height of the outboard motor greatly affects the water resistance. If the mounting height is too high, cavitation tends to occur, thus reducing the propulsion; and if the propeller tips cut the air, the engine speed will rise abnormally and cause the engine to overheat. If the mounting height is too low, the water resistance will increase and thereby reduce engine efficiency. Mount the outboard motor so that the anti-cavitation plate is between the bottom of the boat and a level 25mm (1 in.) below it.



CAUTION:

During water testing, check the buoyancy of the boat, at rest, with its maximum load. Check that the static water level on the exhaust housing is low enough to prevent water entry into the power head when water rises due to waves when the outboard is not running.

Incorrect engine height or obstructions to the smooth flow of water (such as the design or condition of the boat, or accessories such as transom ladders or depth finder transducers) can create air-borne water spray while the boat is cruising. If the motor is operated continuously in the presence of airborne water spray, enough water could enter the engine through the intake opening on the cowling to cause severe engine damage. Eliminate the cause of the airborne water spray.

NOTE:

The optimum mounting height of the outboard motor is affected by the boat and motor combination and the desired use. Test runs at different heights can help determine the optimum mounting height. Consult your Yamaha dealer or boat manufacturer for further information on determining the proper mounting height.

For instructions on settling the trim angle of the outboard motor, see page 20.

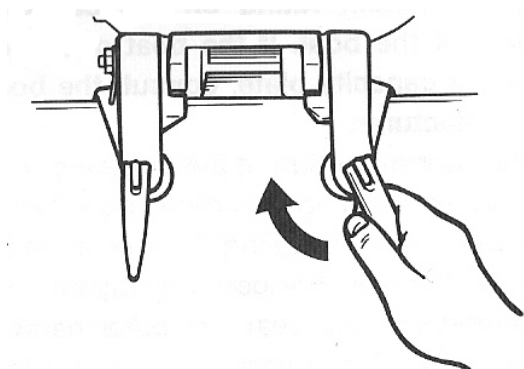
EMU26970

Clamping the outboard motor on the transom so that it is positioned as close to the center as possible. Tighten the transom clamp screws evenly and securely. Occasionally check the clamp screws for tightness during operation of the outboard motor because they could become loose due to engine vibration.

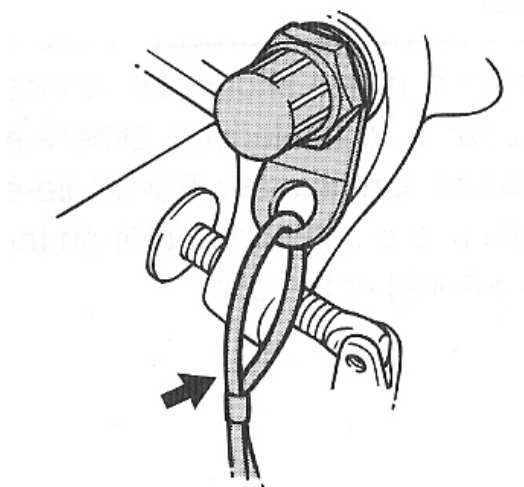
EWM00640

WARNING

Loose clamp screws could allow the outboard motor to fall off or move on the transom. This could cause loss of control and serious injury. Make sure the transom screws are tightened securely. Occasionally check the screws for tightness during operation.



If the engine restraint cable attachment is equipped on your engine, and engine restraint cable or chain should be used. Attach one end to the engine restraint cable attachment and the other to a secure mounting point on the boat. Otherwise the engine could be completely lost if it accidentally falls off the transom.



Secure the clamp bracket to the transom using the bolts provided with the outboard (if packed). For details, consult your Yamaha dealer.

WARNING

Avoid using bolts, nuts or washers other than those contained in the engine packaging. If used, they must be of at least the same quality of material and strength and must be tightened securely. After tightening, test run the engine and check their tightness.

EMU30173

Breaking in engine

Your new engine requires a period of break-in to allow mating surfaces of moving parts to wear in evenly. Correct break-in will help ensure proper performance and longer engine life.



ECM00600

CAUTION:

Failure to follow the break-in procedure could result in reduced engine life or even severe engine damage.

EMU27050

Gasoline and engine oil mixing chart (25:1)

25:1				
	1 L (0.26 US gal, 0.22 Imp gal)	12 L (3.2 US gal, 2.6 Imp gal)	14 L (3.7 US gal, 3.1 Imp gal)	24 L (6.3 US gal, 5.3 Imp gal)
	0.04 L (0.04 US qt, 0.04 Imp qt)	0.48 L (0.51 US qt, 0.42 Imp qt)	0.56 L (0.59 US qt, 0.49 Imp qt)	0.96 L (1.01 US qt, 0.84 Imp qt)

 Gasoline

 Engine oil

CAUTION:

Be sure to mix gasoline and oil completely, otherwise the engine may be damaged.

Procedure for pre-mixed models

Run the engine under load (in gear with a propeller installed) for 10 hours as follows,

1. First 10 minutes:
Run the engine at the lowest possible speed. A fast idle in neutral is best.
2. Next 50 minutes:
Do not exceed half throttle (approximately 3000 r/min). Vary engine speed occasionally. If you have an easy-planing boat, accelerate at full throttle onto plane, then immediately reduce the throttle to 3000 r/min or less.
3. Next two hours:
Accelerate at full throttle onto plane, then reduce engine speed to three-quarter throttle (approximately 4000 r/min). Vary engine speed occasionally. Run at full throttle for one minute, then allow about 10 minutes of operation at three-quarter throttle or less to let the engine cool.
4. Remaining seven hours:
Run the engine at any speed. However, avoid operation at full throttle for more than 5 minutes at a time.
5. After the first 10 hours:
Operate the engine normally. Use the standard premix ratio of gasoline and oil. For details on mixing fuel and oil, see page 15.

Operation

Pre-operation checks

EMU00081

WARNING

If any item in the pre-operation check is not working properly, have it inspected and repaired before operating the outboard motor. Otherwise an accident could occur.

ECM00120

CAUTION:

Do not start the engine out of water. Over-heating and serious engine damage can occur.

EMU31500

Fuel

Check to be sure you have plenty of fuel for your trip.

Make sure there are no fuel leaks or gasoline fumes.

EMU27130

Controls

Check throttle, shift, and steering for proper operation before starting the engine.

The controls should work smoothly, without binding or unusual free play. Look for loose or damaged connections.

Check operation of the starter and stop switches when the outboard motor is in the water.

EMU27140

Engine

Check the engine and engine mounting.

Look for loose or damaged fasteners.

Check the propeller for damage.

EMU27233

Filling fuel and engine oil

EMU27253

Filling fuel for built-in tank

EMU00060

WARNING

Gasoline and its vapors are highly flammable and explosive. Keep away from sparks, cigarettes, flames, or other sources of ignition.

1. With the outboard motor tilted town (in the vertical running position) , remove the fuel tank cap.
2. Use a funnel if the nozzle on the fuel can or pump is not small enough or long enough to fit into the mouth of the fuel tank.
3. Fill the fuel tank carefully.
4. Securely close the cap after refueling. Wipe up any spilled fuel.



Fuel tank capacity:

1.2L (0.32 US gal) (0.26 Imp. gal)

EMU 27394

Gasoline and oil mixing (50:1)

	Gasoline to engine oil ratio
Break-in period	25:1
After break-in	50:1

	50:1			
	1 L (0.26 US gal, 0.22 Imp gal)	12 L (3.2 US gal, 2.6 Imp gal)	14 L (3.7 US gal, 3.1 Imp gal)	24 L (6.3 US gal, 5.3 Imp gal)
	0.02 L (0.02 US qt, 0.02 Imp qt)	0.24 L (0.25 US qt, 0.21 Imp qt)	0.28 L (0.3 US qt, 0.25 Imp qt)	0.48 L (0.51 US qt, 0.42 Imp qt)



Gasoline



Engine oil

If equipped with a portable fuel tank

1 Pour oil into a portable fuel tank , and then add gasoline

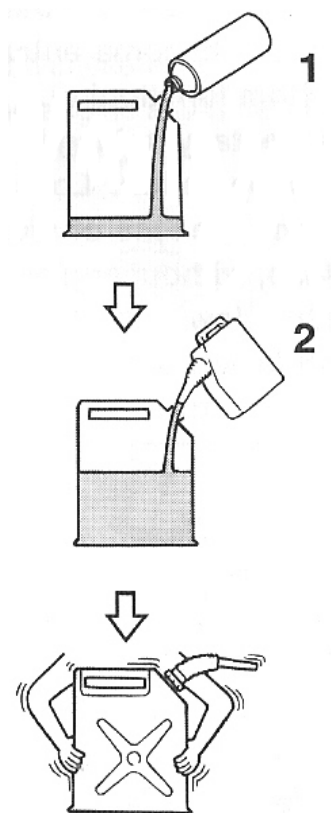
2 Replace the fuel tank cap and close tightly

3 Shake the fuel tank to mix the fuel thoroughly

4 Make sure that the oil and gasoline are mixed

If equipped with a built-in-fuel tank

1 Pour oil into a clean fuel can, and then add gasoline



2 Replace the fuel can cap and close tightly

3 Shake the fuel can to mix the fuel thoroughly

4 Make sure that the oil and gasoline are mixed

5 Pour the gasoline and oil mixture into built –in fuel tank

CAUTION

Avoid using any oil other than the specified type

Use a thoroughly blended fuel-oil mixture

If the mixture is not thoroughly mixed, or if the mixture is ratio is incorrect , the following problems could occur

Low oil ratio: lack of oil could cause major engine trouble , such as piston seizure

High oil ratio: too much oil could cause fouled spark plugs , smoke exhaust, and heavy carbon deposits

NOTE

If use a permanently installed tank, pour the oil gradually as the gasoline is being added to the tank

OPERATION ENGINE

FEEDING FUEL

WARNING

Before starting the engine , make sure that the boat is tightly moored and that you can steer clear of any obstructions , Be sure there are no swimmers in the water near you

When the air vent screw is loosened gasoline vapor will be released Gasoline is highly flammable and explosive, Refrain from smoking , and keep away form open flames and sparks while loosening the air vent screw

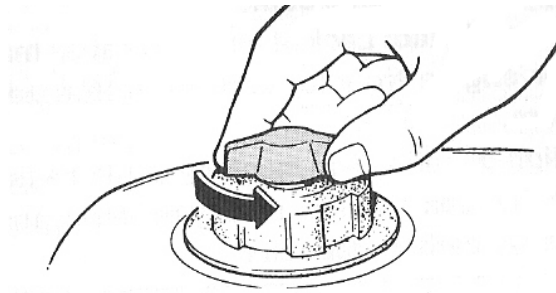
This product emits exhaust gases which contain carbon monoxide , a colorless , odorless gas which could cause brain damage or death when inhaled.

OPERATION

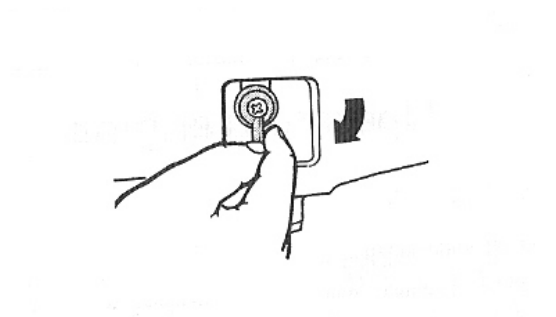
Symptoms include:

nausea, dizziness, and drowsiness. Keep cockpit and cabin areas well ventilated. Avoid blocking exhaust outlets.

1. Loosen the air vent on the fuel tank cap by one turn.



2. Open the fuel cock



Starting engine

WARNING

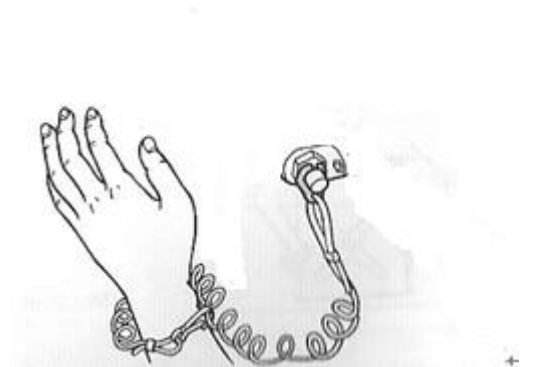
Before starting the engine, make sure that the boat is tightly moored and that you can steer clear of any obstructions. Be sure there are no swimmers in the water near you.

Manual start models:

1. If the engine shut-off cord is equipped, attach it to a secure place on your clothing or your arm or leg. Then install the clip on the other end of the cord into the engine shut-off switch.

WARNING

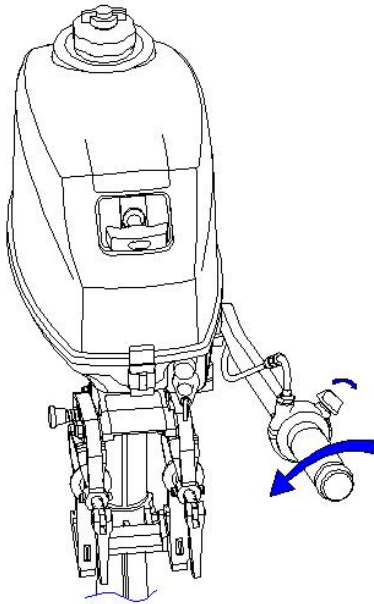
- Attach the engine shut-off cord to a secure place on your clothing, or your arm or leg while operating.
- Do not attach the cord to clothing that could tear loose. Do not route the cord where it could become entangled, preventing it from functioning.
- Avoid accidentally pulling the cord during normal operation. Loss of engine power means the loss of most steering control. Also, without engine power, the boat could slow rapidly. This could cause people and objects in the boat to be thrown forward.



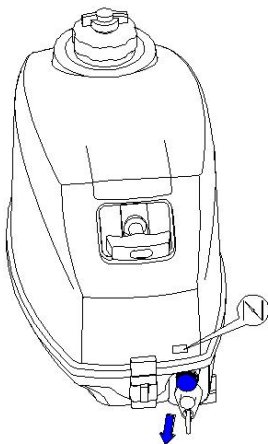
2. Place the throttle lever in the start position.

WARNING

The propeller rotates whenever the engine is running. Do not move the throttle control lever from the start position during warm-up. The boat could unexpectedly start to move, which could result in an accident.



3. Turn throttle grip to left lightly (1/6 circle), then lock the adjuster bolt tightly.



Place the choke knob in the “START” position (push out the knob).

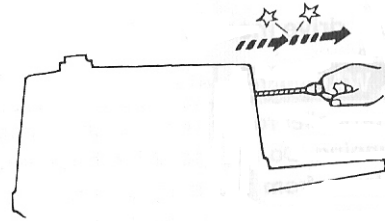
After the engine starts, return the knob to the home position (Push in knob)

NOTE:

- When restarting a warm engine, place the choke knob in the home position.
- If the choke knob is left in the “START” position while the engine is running, the engine will run poorly or stall.

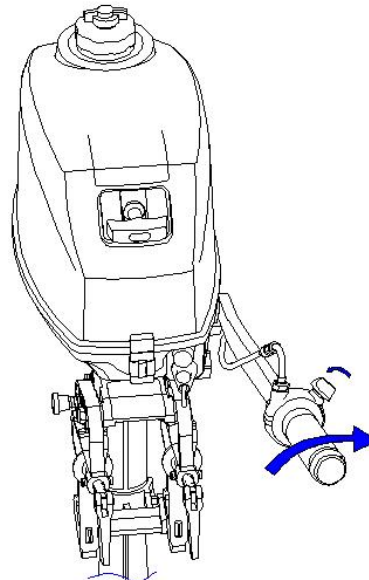
4. Pull the manual starter handle slowly until you feel resistance. Then give a strong pull

straight out to start the engine. Repeat if necessary.



5. After the engine starts, slowly return the manual starter handle to the original position before releasing it.

6. Loosen the adjuster bolt first, turn throttle grip to right in idle speed.



NOTE:

- When the engine is cold, it needs to be warmed up. For further information, see page 19.
- If the engine does not start on the first try, repeat the procedure. If the engine fails to start after 4 or 5 tries, open the throttle a small amount (between 1/8 and 1/4) and try again. Also, if the engine is warm and fails to start, open the throttle a same amount and try to start the engine again. If the engine still fails to start, see page 36.

Warning up engine

Direct drive modles

WARNING

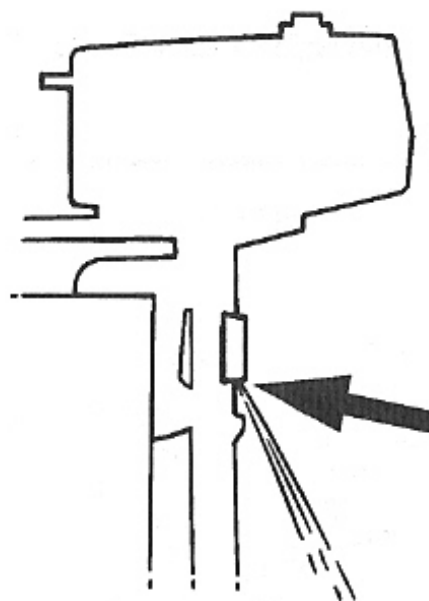
The propeller rotates whenever the engine is running. Do not move the throttle control lever from the start position during warm-up. The boat could unexpectedly start to move, which could result in an accident.

1. Before beginning operation, allow the engine to warm up at idle speed for 3 minutes. Failure to do this will shorten engine life.
2. Check for a steady flow of water from the cooling water pilot hole.

CAUTION:

A continuous flow of water from the cooling water pilot hole shows that the water pump is pumping water through the cooling passages.

If water is not flowing out of the hole at all times while the engine is running, overheating and serious damage could occur. Stop the engine and check whether the cooling water inlet on the lower case or the cooling water pilot hole is blocked. Consult your dealer if the problem can not be located and corrected.



Shifting

WARNING

Before shifting, make sure there are no swimmers or obstacles in the water near you.

CAUTION:

To change the boat direction or shifting position from forward to reverse or vice-versa, first close the throttle so that the engine idles (or run at low speeds)

Forward

When the engine is started, the propeller turns and the boat begins to move forward.

Reverse:

WARNING

When operating in reverse, go slowly. Do not open the throttle more than half. Otherwise the boat could become unstable which could result in loss of control and an accident.

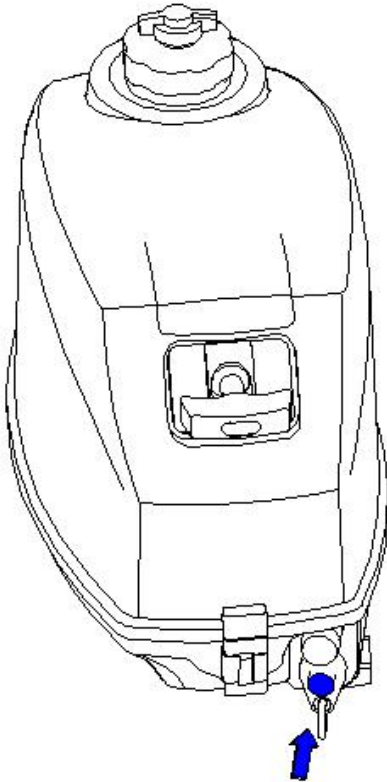
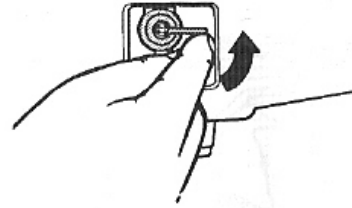
These models can turn full 360° in its bracket (full-pivot system). To back up the boat simply turn the engine around 180° with the tiller handle facing toward you.

Stopping engine

Before stopping the engine, first let it cool off for a few minutes at idle or low speed. Stopping the engine immediately after operating at high speed is not recommended.

Procedure

1. Push and hold the engine stop button until the engine comes to a complete stop.



2. After stopping the engine, tighten the air vent screw on the fuel tank cap and set the fuel cock to the closed position.

NOTE:

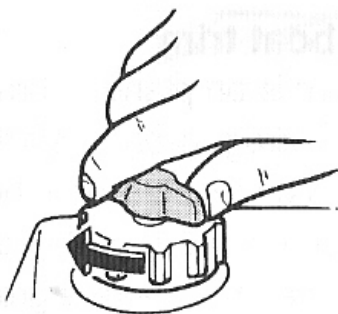
The engine can also be stopped by pulling the engine the cord and removing the clip from the engine shut-off switch.

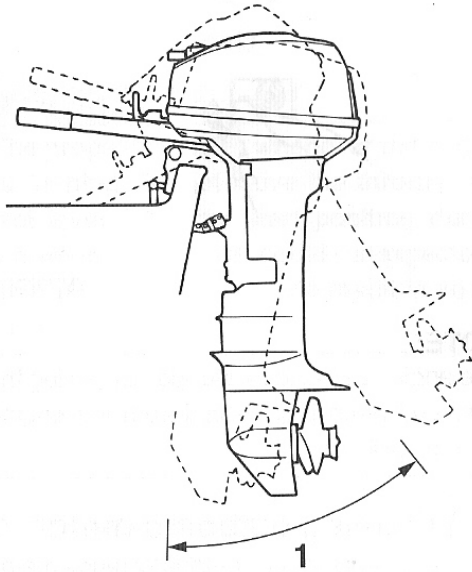
Trimming outboard motor

The trim angle of the engine of the outboard motor helps determine the position of the bow of the boat in the water. Correct trim angle will help improve performance and fuel economy while reducing strain on the engine. Correct trim angle depends upon the combination of the boat, engine, and propeller. Correct trim is also affected by variables such as the load in the boat, sea conditions, and running speed.

WARNING

Excessive trim for the operating conditions (either trim up or trim down) can cause boat instability and can make steering the boat more difficult. This increases the possibility of an accident. If the boat begins to feel unstable or is hard to steer, slow down and/or readjust the trim angle.



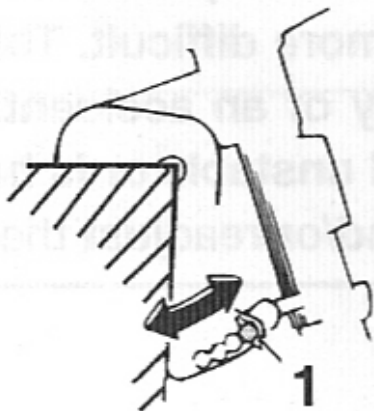


1. Trim operating angle

Adjusting trim angle for manual tilt models

There are 4 or 5 holes provided in the clamp bracket to adjust the outboard motor trim angle.

1. Stop the engine.
2. Tilt the outboard motor up, and then remove the trim rod from the clamp bracket.



1. Trim rod

3. Reposition the rod in the desired hole.

To raise the bow (“trim-out”), move the rod

away from the transom.

To low the bow (“trim-in”), move the rod toward the transom.

Make test runs with the trim set to different angles to find the position that works best for your boat and operating conditions.

WARNING

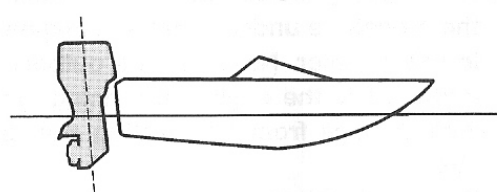
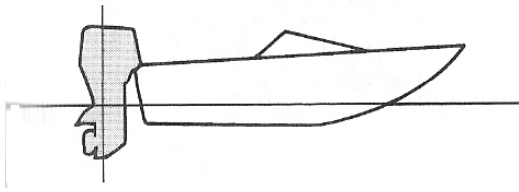
- Stop the engine before adjusting the trim angle.
- Use care to avoid being pinched when removing or installing the rod.
- Use caution when trying a trim position for the first time. Increase speed gradually and watch for any signs of instability or control problems. Improper trim angle can cause loss of control.

NOTE:

The outboard motor trim angle can be changed approximately 4 degrees by shifting the trim rod one hole.

Adjusting boat trim

When the boat is on plane, a bow-up attitude results in less drag, greater stability and efficiency. This is generally when the keel line of the boat is up 3 to 5 degrees. With the bow up, the boat may have a greater tendency to steer to one side or the other. Compensate for this as you steer. The trim tab can also be adjusted to help offset this effect. When the bow of the boat is down, it is easier to accelerate from a standing start onto plane.



Bow up

Too much trim-out puts the bow of the boat too high in the water. Performance and economy are decreased because the hull of the boat is pushing the water and there is more air drag. Excessive trim-out can also cause the propeller to ventilate, which reduces performance further, and the boat may ‘propoise’ (hop in the water), which could throw the operator and passengers overboard.

NOTE:

Depending on the type of the boat, the outboard motor trim angle may have little effect on the trim of the boat when operating.

Tilting up and down

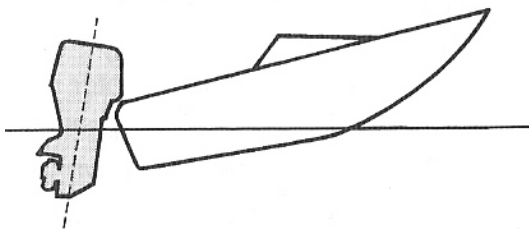
If the engine will be stopped for some time or if the boat is moored in shallows, the outboard motor should be tilted up to protect the propeller and lower casing from damage by collision with obstructions, and also to reduce salt corrosion.

WARNING

Be sure all people are clear of the outboard motor when tilting up and down. Body parts can be crushed between the motor and the clamp bracket when the motor is trimmed or tilted.

WARNING

Leaking fuel is a fire hazard. Tighten the air vent screw and place the fuel cock in the closed position if the outboard motor will be titled for more than a few minutes. Otherwise fuel may leak.



Bow down

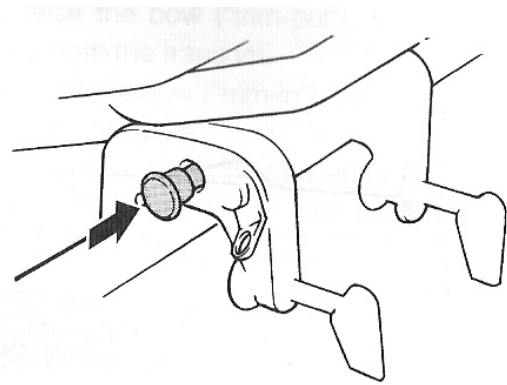
Too much trim-in causes the boat to “plow” through the water, decrease fuel economy and making it hard to increase the speed. Operating with excessive trim-in at higher speeds also makes the boat unstable. Resistance at the bow is greatly increased, heightening the danger of “bow steering” and making operation difficult and dangerous.

CAUTION:

- Before tilting the outboard motor, follow the procedure under "Stopping engine" in this chapter. Never tilt the outboard motor while the engine is running. Severe damage from overheating can result.
- Do not tilt up the engine by pushing the tiller handle because this could break the handle.
- Keep the power unit higher than the propeller at all times. Otherwise water could run into the cylinder and cause damage.
- The outboard motor can not be tilted when in reverse or when the outboard is turned 180° (facing the rear)

Procedure for tilting up (manual tilt models)

1. Place the gear shift lever in neutral (if equipped) and face the outboard motor forward.
2. On full-pivot system models, tighten the steering friction adjuster by turning it clockwise to prevent the motor from turning freely.
3. Tighten the air vent screw. On models equipped with a fuel joint, disconnect the fuel line from the outboard motor.
4. Close the fuel cock.
5. Tilt support bar equipped models: hold the rear of the top cowling or the rear handle (if equipped) with one hand and tilt the outboard motor up fully until the tilt support bar automatically locks.
6. Tilt support knob equipped models: Hold the rear of the top cowling with one hand, fully tilt the outboard motor up, and push the tilt support knob into the clamp bracket.



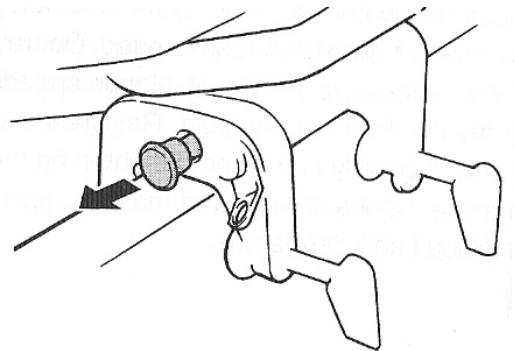
7. Tilt support lever equipped models: Hold the rear and handle and tilt the engine up fully until the tilt support lever automatically locks.

NOTE:

Tilt support lever/bar equipped models: If the motor is not facing forward, the tilt support lever/bar can not automatically turn to the locked position. If the tilt support lever/bar does not automatically lock, swing the motor a little to the left and right.

Procedure for tilting down (manual tilt models)

1. Slightly tilt the outboard motor up.
2. If equipped with the tilt support bar: Slowly tilt the outboard motor down while pulling the tilt support bar lever up.
3. If equipped with the tilt support knob: pull the knob out, and then slowly tilt the outboard motor down.



4. If equipped with the tilt support lever: Slowly tilt the outboard motor down while pulling the tilt support lever up.
5. Loosen the steering friction adjust by turning it counterclockwise, and adjust the steering friction according to operator.

WARNING

If there is too much resistance it could be difficult to steer, which could result in an accident.

Cruising in other conditions

Cruising in salt water

After operating in salt water, flush the cooling water passages with fresh water to prevent them from becoming clogged. Also rinse the outside of the outboard motor with fresh water and, if possible, rinse the power head under the cowling.

Cruising in muddy or turbid water

Hyfong strongly recommends that you use the optional chromium-plated water pump kit (available for V4 and large engines) if you use the outboard motor in water with a lot of sediment in it, such as muddy or other turbid (cloudy) water.

Cruising in acidic water

Water in some areas can be acidic. After operating in such water, flush the cooling passages with fresh to prevent corrosion. Also rinse the outside of the outboard motor with fresh water.

Specifications

NOTE: _____
“(AL)” stated in the specification data below represents the numerical value for the aluminum propeller installed. Likewise, “(SUS)” represents the value for stainless steel propeller installed and “(PL)” for plastic propeller installed.

Dimension:

Overall length:
603 mm(23.7in)

Overall width:
240 mm(9.4in)

Overall height S
Transom height S:
417MM(16.4 in)

Weight(PL)S:
9.8KG(22lb)

Performance:
Full throttle operating range:
4000-5200 r/min

Maximum output:
1.9Kw@5200r/min
(2.6HP@5200r/min)
Idling speed(in neutral)
1150±50r/min

Engine
Type:2-STROKE S
Displacement:50ccm
Bore x stroke:
42.0×36.0mm(1.65×1.42 in)

Ignition system:CDI
Spark plug(NGK):
BR7HS
Spark plug gap:
0.6-0.7mm(0.024-0.028 in)

Control system:Tiller

Starting system:Manual

Starting carburetion system:

Choke valve

Drive unit:

Gar positions:

Forward

Gear ratio:

2.08(27/13)

Trim and tilt system:

Manual tilt

Propeller mark:

A

Fuel and oil:

Recommended fuel:

Regular unleaded gasoline

Fuel tank capacity(built in type):

1.2L(0.32 US gal)(0.26Imp.gal)

Recommended engine oil:

YAMALUBE 2 stroke outboard motor oil

Fuel:oil ratio:

Regular gasoline:

50:1

Lubrication:

Pre-mixed fuel and oil

Recommended gear oil:

Hypoid gear oil SAE #90

Gear oil quantity:

45ccm(1.52US oz) (1.59Imp. oz)

Tightening torque for engine:

Spark plug:

25.0Nm(18.4ft-ib) (2.55kgf-m)

Transporting and storing outboard motor

WARNING _____

- **Leaking fuel is a fire hazard. When transporting and storing the outboard motor close the air vent screw and fuel cock to prevent fuel from leaking.**
- **USE CARE when transporting fuel tank, whether in a boat or car.**
- **DO NOT fill fuel container to maximum capacity. Gasoline will expand considerably as it warms up and can build up pressure in the fuel container. This can cause fuel leakage and a**

potential fire hazard.

WARNING

Never get under the lower unit while it is tilted, even if a motor support bar is used. Severe injury could occur if the outboard motor accidentally falls.

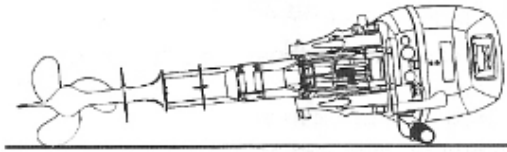
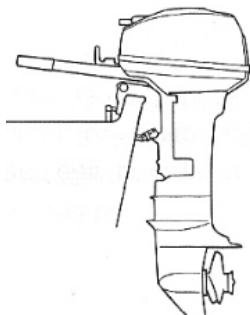
CAUTION:

Do not use the tilt support lever or knob when trailering the boat. The outboard motor could shake loose from the tilt support and fall. If the motor cannot be trailered in the normal running position, use an additional support device to secure it in the tilt position.

The outboard motor should be trailered and stored in the normal running position. If there is insufficient road clearance in this position, then trailer the outboard motor in the tilt position using a motor support device such as a transom saver bar. Consult your dealer for further details.

Clamp screw mounting models

When transporting or storing the outboard motor while removed from a boat, keep the outboard motor in the attitude shown.



NOTE:

Place a towel or something similar under the outboard motor to protect it from damage.

Storing outboard motor

When storing your outboard motor for prolonged periods of time (2 months or longer), several important procedures must be performed to prevent excessive damage. It is advisable to have your outboard motor serviced by an authorized dealer prior to storage. However, you, the owner, with a minimum of tools, can perform the following procedures.

CAUTION:

Do not place the outboard motor on its side before the cooling water has drained from it completely, otherwise water may enter the cylinder through the exhaust port and cause engine trouble.

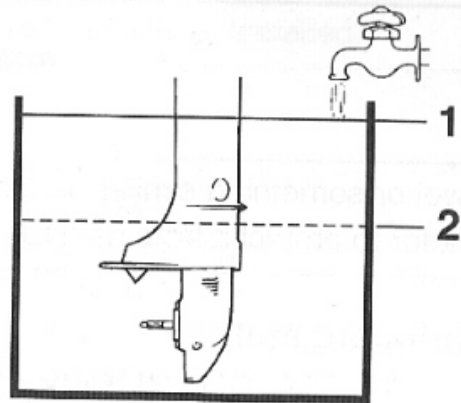
Store the outboard motor in a dry, well-ventilated place, not in direct sunlight.

Procedure

Flushing in a water tank

1. Wash the outboard motor body using fresh water. For further information, see page 28.

2. Place the fuel cock in the closed position and disconnect the fuel line if equipped. Tighten the air vent screw, if equipped.
3. Remove the engine top cowling and silencer cover.
4. Install the outboard motor on the test tank.



1. Water surface
 2. Lowest water level
5. Fill the tank with fresh water to above the level of the anti-cavitation plate.

CAUTION: _____

If the fresh water level is below the level of the anti-cavitation plate, or if the water supply is insufficient, engine seizure may occur.

6. Cooling system flushing is essential to prevent the cooling system from clogging up with salt, sand, or dirt. In addition, fogging /lubricating of the engine is mandatory to prevent excessive engine damage due to rust. Perform the flushing and fogging at the same time.

WARNING _____

- **Do not touch or remove electrical parts when starting or during operation.**

- **Keep hands, hair, and clothes away from the flywheel and other rotating parts while the engine is running.**

7. Run the engine at a fast idle for a few minutes in neutral position.
8. Just prior to turning off the engine, quickly spray "Fogging Oil" alternately into each carburetor, if equipped. When properly done, the engine will smoke excessively and almost stall.
9. If "Fogging Oil" is not available, run the engine at a fast idle until the fuel system empties and the engine stops.
10. Remove the outboard motor from the test tank.
11. Install the silence cover or fogging hole cap, and the top cowling.
12. Drain the cooling water completely out of the motor. Clean the body thoroughly.
13. If "Fogging Oil" is not available, remove the spark plug(s). Pour a teaspoonful of clean engine oil into each cylinder. Crank several times manually. Replace the spark plug(s).
14. Drain the fuel from both the built-in and portable fuel tanks, on equipped models.

NOTE: _____

Portable fuel tank equipped models: Store the portable fuel tank in a dry, well-ventilated place, not in direct sunlight.

Lubrication

1. Install the spark plug(s) and torque to proper specification. For information on spark plug installation, [see page 30](#).

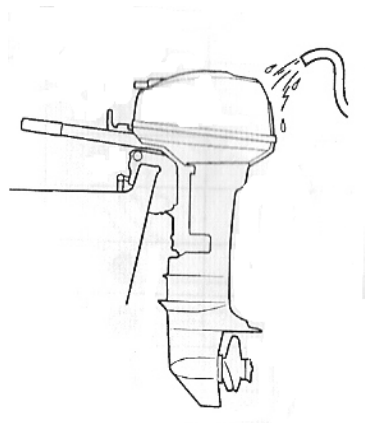
2. Change the gear oil. For instructions, [see page 34](#). Inspect the oil for the presence of water that indicates a leaky seal. Seal replacement should be performed by an authorized dealer prior to use.
3. Grease all grease fittings. For further details, [see page 30](#).

NOTE: _____

For long-term storage, fogging the engine with oil is recommended. Contact your dealer for information about fogging oil and procedures for your engine.

Cleaning the outboard motor

After use, wash the exterior of the outboard motor with fresh water. Flush the cooling system with fresh water.



NOTE: _____

For cooling system flushing instructions, [see page 25](#),

Checking painted surface of motor

Check the motor for scratches, nicks, or flaking paint. Areas with damaged paint are more likely to corrode. If necessary, clean and paint the areas. A touch-up paint

is available from your dealer.

Periodic maintenance

WARNING _____

Be sure to turn off the engine when you perform maintenance unless otherwise specified. If you are not familiar with machine servicing, this work should be done by your dealer or other qualified mechanic.

Replacement parts

If replacement parts are necessary, use only genuine parts or parts of equivalent design and quality. Any part of inferior quality may malfunction, and the resulting loss of control could endanger the operator and passengers. Genuine parts and accessories are available from your dealer.

Maintenance Chart

Frequency of maintenance operations may be adjusted according to the operating condition, but the following table gives general guidelines. Refer to the sections in this chapter for explanations of each owner-specific action.

NOTE:

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

The “●” symbol indicates the check-ups which you may carry out yourself.

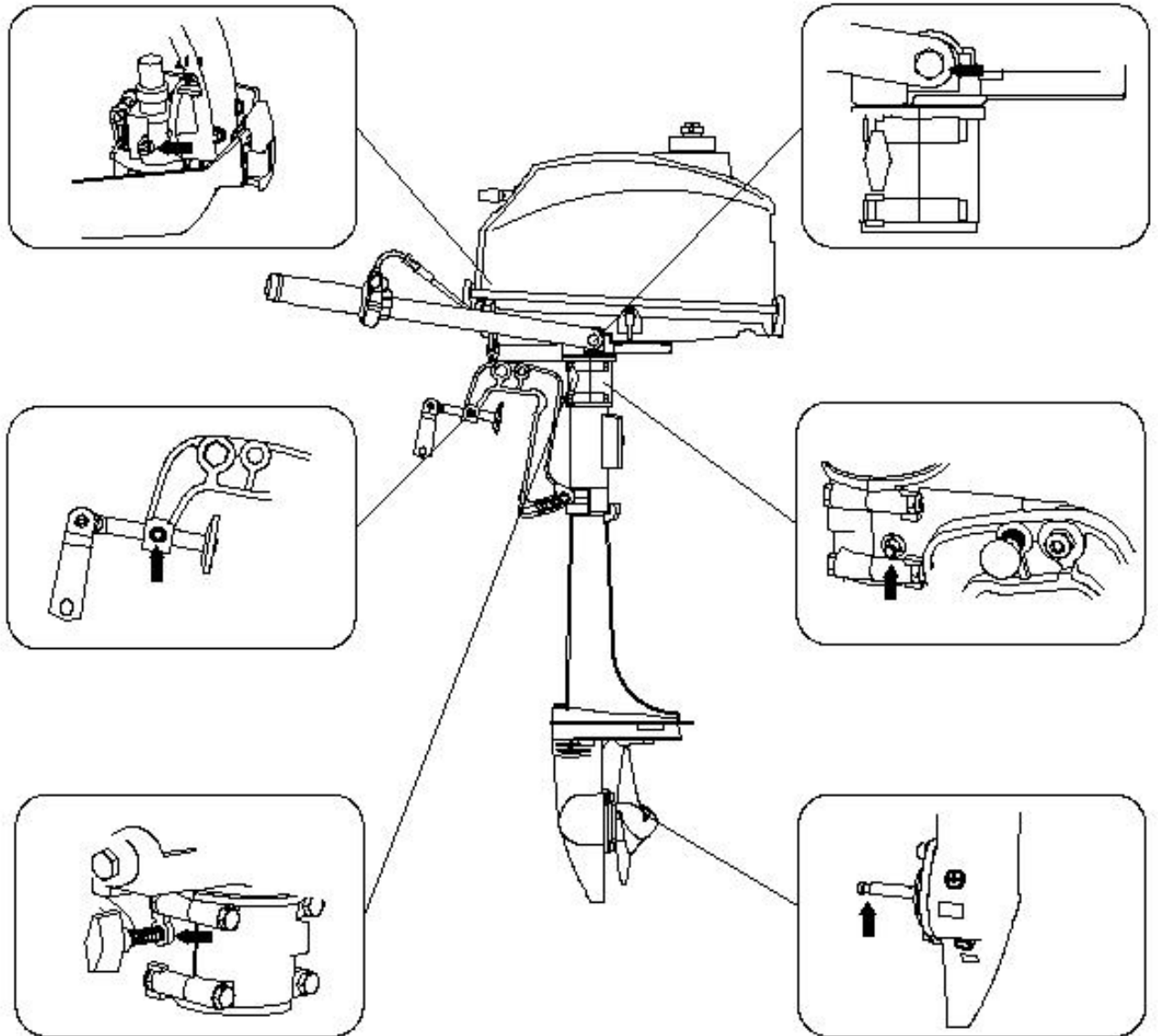
The “○” symbol indicates work to be carried out by your dealer.

Item	Actions	Initial		Every	
		10 hours (1 month)	50 hours (3 months)	100 hours (6 months)	200 hours (1 year)
Anode(s)(external)	Inspection/replacement		●/○	●/○	
Cooling water passages	Cleaning		●	●	
Cowling clamp	Inspection				●
Fuel filter(inside built-in fuel tank)	Inspection/cleaning				○
Fuel system	Inspection	●	●	●	
Fuel tank(built-in tank)	Inspection/cleaning				○
Gear oil	Change	●		●	
Geasing points	Greasing			●	
Idling speed(carburetor models)	Inspection	●/○		●/○	
Propeller and cotter pin	Inspection/replacement		●	●	
Thermostat	Inspection/replacement				○
Throttle link/throttle cable/throttle pick-up timing	Inspection/adjustment				○
Water pump	Inspection/replacement				○
Spark plug(s)	Cleaning/adjustment/replacement	●	●	●	

Greasing

Grease A (water resistant grease)

Grease D (corrosion resistant grease; for propeller shaft)



Cleaning and adjusting spark plug

WARNING

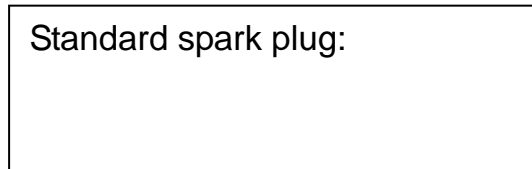
When removing or installing a spark plug, be careful not to damage the insulator. A damaged insulator could allow external sparks, which could lead to explosion or fire

WARNING

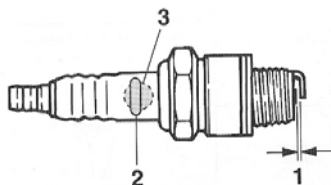
~~The engine will still be very hot when it has just been turned off.~~ Take extremely care so that neither you nor anyone else gets burnt. To avoid burns, work on the engine when it has cooled down

The spark plug is an important engine component and is easy to inspect. The condition of the spark plug can indicate something about the condition of the engine. For example, if the center electrode porcelain is very white, this could indicate an intake air leak or carburetion problem in that cylinder. Do not attempt to diagnose any problems yourself. Instead, take the outboard motor to a dealer. You should periodically remove and inspect the spark plug because heat and deposits will cause the spark plug to slowly break down and erode. If electrode erosion becomes excessive, or if carbon and other deposits are excessive, you should replace the spark plug with another of the correct type.

Standard spark plug:



gap to specification if necessary.



1. Spark plug gap
2. Spark plug part number

3. Spark plug I.D.mark(NGK)

Spark plug gap:

0.6-0.7mm(0.024-0.028 in)

When fitting the plug, always clean the gasket surface and use a new gasket. Wipe off any dirt from the threads and screw in the spark plug to the correct torque.

Standard spark torque:

25.0Nm(18.4ft-lb)(2.55kgf-m)

NOTE:

If a torque-wrench is not available when you are fitting a spark plug, a good estimate of the correct torque is 1/4 or 1/2 a turn past finger tight. Have the spark plug adjusted to the correct torque as soon as possible with a torque wrench.

Checking fuel system

WARNING

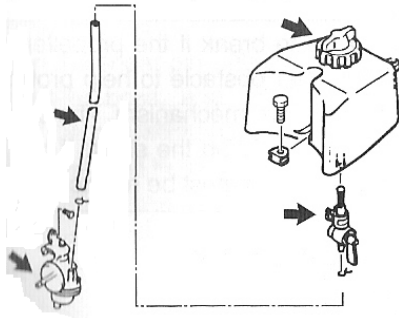
Gasoline and its vapors are highly flammable and explosive. Keep away from sparks, cigarettes, flames, or other sources of ignition.

WARNING

Leaking fuel can result in fire or explosion

- Check for fuel leakage regularly.
- ~~If any fuel leakage is found, the fuel system must be repaired by a qualified mechanic. Improper repairs can make the outboard unsafe to operate.~~

Check the fuel lines for leaks, cracks, or make function. If a problem is found, your dealer or other qualified mechanic should repair it immediately.



Checkpoints

- Fuel system parts leakage
- Fuel line joint leakage
- Fuel line cracks or other damage
- Fuel connector leakage

Inspecting idling speed

WARNING _____

Do not touch or remove electrical parts when starting or during operation.

Keep hands, hair, and clothes away from the flywheel and other rotating parts while the engine is running.

The propeller rotates whenever the engine is running. Do not move the throttle control lever from the start position during warm-up. The boat could unexpectedly start to move, which could result in an accident.

CAUTION: _____

This procedure must be performed while the outboard motor is in the water. A test tank can be used.

A diagnostic tachometer should be used for this procedure. Results may vary depending on whether testing is conducted with the flushing attachment, in a test tank, or with the outboard motor in the water.

1. Start the engine and allow it to warm up fully with the throttle in

the start position or less until it is running smoothly. If the outboard is mounted on a boat, be sure the boat is tightly moored.

NOTE: _____

Correct idling speed inspection is only possible if the engine is fully warmed up. If not warmed up fully, the idle speed will measure higher than normal. If you have difficulty verifying the idle speed, or the idle speed requires adjustment, consult a dealer or other qualified mechanic.

3. Verify whether the idle speed is set to specification. For idle speed specifications, see page 25.

Checking wiring and connectors

- Check that each grounding wire is properly secured.
- Check that each connector is engaged securely.

Exhaust leakage

Start the engine and check that no exhaust leak from the joints between the exhaust cover, cylinder head, and body cylinder.

Water leakage

Start the engine and check that no water leaks from the joints between the exhaust cover, cylinder head, and body cylinder

Checking propeller

WARNING _____

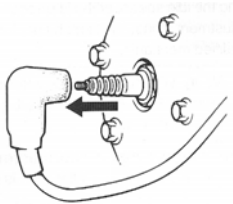
You could be seriously injured if the engine accidentally starts when you are near the propeller.

Before inspecting, removing, or installing the propeller, remove the spark plug caps from the spark plugs.. Also, place

Maintenance

The shift control in neutral, turn the main switch to "off" (off) and remove the key, and remove the cord from the engine shut-off switch. Turn off the battery cut-off switch if your boat has one.

- do not use your hand to hold the propeller when loosening or tightening the propeller nut. Put a wood block between the anti-cavitation plate and the propeller to prevent the propeller from turning.



Checkpoints

- check each of the propeller blades for wear, erosion from cavitation or ventilation, or other damage.
- check the propeller shaft for damage.
- check the shear pin for wear or damage.
- check for fish line tangled around the propeller shaft.



- check the propeller shaft oil seal for damage.

33

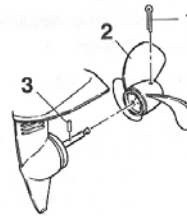
Removing propeller

Shear pin models

- straighten the cotter pin and pull it out using a pair of pliers

Note: _____

It is designed to break if the propeller hits a hard underwater obstacle to help protect the propeller and drive mechanism. The propeller will then spin freely on the shaft if this happens, the shear pin must be replaced.



- cotter pin
 - propeller
 - shear pin
- remove the propeller nut and washer equipped.
 - remove the shear pin and the propeller.

Emu30671

Installing propeller

Emu29221

Shear pin models

Ecm00500

CAUTION: _____

Be sure to use a new cotter pin and bend the ends over securely. Otherwise the propeller could come off during operation and _____ be lost.

- apply marine grease or corrosion resistant grease to the propeller shaft

2. insert the shear pin into the hole in the propeller shaft
3. align the shear pin with the groove in the propeller boss ,and slide the propeller over the propeller shaft .
4. align the hole in the propeller with the recess in the propeller shaft a new cotter pin in the hole and bend the cotter pin ends .

NOTE: _____

There is holder on the steering handle for spare shear and cotter pins be sure to re-place a pin in the holder if one is used

Emu29282

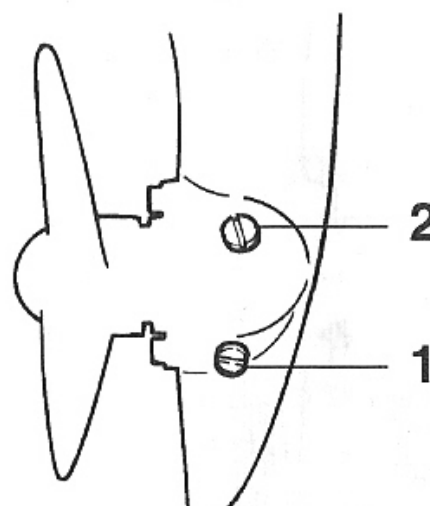
Changing gear oil

Ewm00800

! WARNING _____

- . **Be sure the outboard motor is securely fastened to the transom or a stable stand you could be severely injured if the outboard motor falls on you**
- . **never get under the lower unit while it is tilted even when the tilt support lever or knob is locked ,severe injury could oc-cur if the outboard motor accidentally falls.**

1. tilt the outboard motor so that the gear oil drain screw is at the lowest point possi-ble.
2. place a suitable container under the gear case.
3. remove the gear oil drain screw and gas-ket.



1. gear oil drain screw
2. oil level plug

NOTE: _____

- . If a magnetic gear oil drain screw is equipped ,remove all metal particles from the screw before installing it .
- . always use new gaskets ,do not reuse the removed gaskets .

3. remove the oil level plug and gasket to allow the oil to drain completely.

Ecm00710

CAUTION: _____

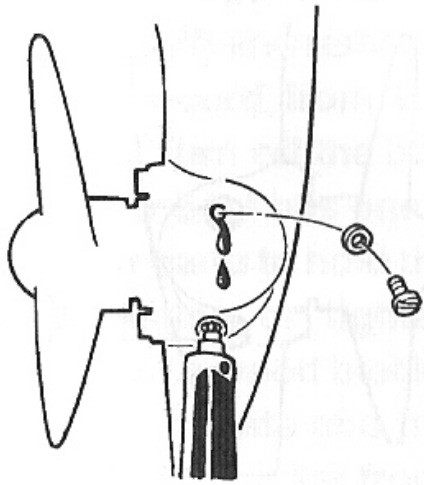
Inspect the used oil after it has been drained if the oil is milky ,water is getting into the gear case which can cause gear damage consult a dealer for re-pair of the lower unit seals .

NOTE: _____

For disposal of used oil ,consult your dealer .

4. with the outboard motor in a vertical position, and using a flexible or pressurized filling device , inject the gear oil into the gear oil drain screw hole .

Recommended gear oil :
 Hypoid gear oil SAE#90
 Gear oil quantity :
 45.0cm³ (1.52US oz) (1.59 Imp.oz)



6. put a new gasket on the oil level plug .
 When the oil begins to flow out of the oil level plug hole,,insert and tighten the oil level plug
 7.put a new gasket on the gear oil drain screw ,insert and tighten the gear oil drain screw.

Emu29312

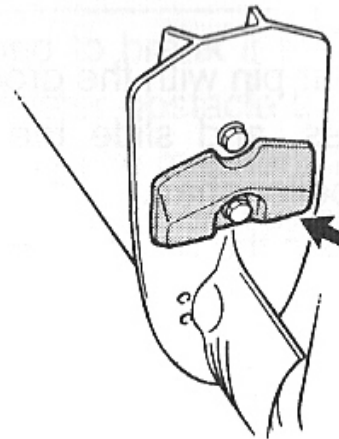
Inspecting and replacing anode(s)

Outboard motors are protected from corrosion by sacrificial ,anodes inspect the external anodes periodically ,remove scales from the surfaces of the anodes consult a dealer for replacemcet of extrnalanodes.

Emc00720

CAUTION: _____
DO not paint anodes as this would render them ineffective.

NOTE: _____
 Inspect ground leads attached to external anodes on equipped models ,consult a dealer for inspection and replacement of internal anodes attached to the power unit.



Emu29391

Checking top cowling

Ecm01650

CAUTION: _____
 Be sure the cowling is closed securely and that there are no gaps,A loose or improperly fitting cover could allow water into the engine

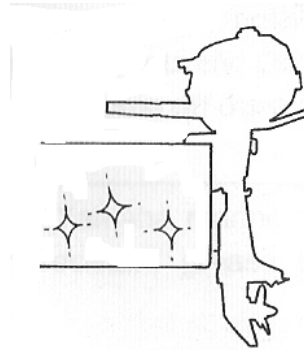
Check the fitting of the top cowling by pushing it with both hands, If it is loose have it repaired by your dealer.

Emu29400

Coating the boat bottom

A clean hull improves boat performance the Boat bottom should be kept as clean of marine growth as possible if necessary the boat, bottom can be coated with an anti-fouling pain approved for your area to inhibit marine growth

Do not use anti-fouling paint which includes copper or graphite these paints can cause more rapid engine corrosion.



Troubleshooting

A problem in the fuel,compression or ignition systems can cause poor starting ,loss of power,or other problems ,this section describes basic checks and possible remedies ,and covers all outboard motors ,therefore some items may not apply to your model.

Lf your outboard motor requires repair bring it to your dealer.

Flashing ,consult your dealer

Starter will not operate .

Q, is battery capacity weak or low?

A,check battery condition,use battery of recommended capacity

Q, are battey connections loose or corroded?

A, tighten battery cables and clean attery terminals.

Q. is fuse for electric start relay or electric circuit blown?

A,check for cause of electric overload and repair replace fuse with one of correct amperage

Q.are starter components faulty?

A .have serviced b a dealer

Engine will not start(starter operates)

Q.is fuel tank empty?

A fill tank with clean fresh fuel.

Q is fuel contaminated or stale?

A,fill tank with clean ,fresh fuel

Q .is fuel filter clogged?

A , clean or replace filter

Q,is atarting procedure incorrect?

A.see page 17

Q,has fuel pump malfunctioned?

A, have serviced by a dealer

Q, art spark plug (s) fouled or of incorrect type?

A. inspect spark plug(s),clean or replace with recommended type.

Q. are spark plug cap(s)fitted incorrectly?

A , check and re-fit cap(s).

Q, is ignition wiring damaged or poorly connected?

A, check wires for wear or breaks ,tighten all loose connections ,replace worn or broken wires.

Q, sre ignition parts faulty?

A have serviced by a dealer .

Q , is engine shut-off cord not attached?

A attach cord

Q, are engine inner parts damaged?

A, have serviced by a dealer.

Enging idles irregularly or atalls

Q, are spark plug(s) fouled or of incorrect type?

A. Inspect spark plug(s),clean or replace with recommended type .

Q, is fuel system obstructed?

TROUBLE RECOVERY

A. Check for pinched or kinked fuel line or other obstructions in fuel system.

Q. Is fuel contaminated or stale?

A: Fill tank with clean, fresh fuel.

Q. Is fuel filter clogged?

A. Clean or replace filter.

Q. Has ignition parts failed?

A. Have serviced by a SHOWA dealer.

Q. Has warning system activated?

A. Find and correct cause of warning

Q. Is spark plug gap incorrect?

A. Inspect and adjust as specified.

Q. Is ignition wiring damaged or poorly connected?

A. Check wires for wear or breaks. Tighten all loose connections. Replace worn or broken wires.

Q. Is specified engine oil not being used?

A. Check and replace oil as specified.

Q. Is thermostat faulty or clogged?

A. Have serviced by a Showa dealer.

Q. Are carburetor adjustments incorrect?

A. Have serviced by a Showa dealer?

Q. Is fuel pump damaged?

A. Have serviced by Showa dealer?

Q. Is air vent screw on fuel tank closed?

A. Open air vent screw.

Q. Is choke knob pulled out?

A. Return to home position.

Q. Is motor angle too high?

A. Return to normal operating position.

Q. Is carburetor clogged?

A. Have serviced by a Showa dealer.

Q. Is fuel joint connection incorrect?

A. Connect correctly.

Q. Is throttle valve adjustment incorrect?

A. Have serviced by a Showa dealer.

Q. Is battery cable disconnected?

A. Connect securely.

Warning buzzer sounds or indicator lights.

Q. Is cooling system clogged?

A. Check water intake for restriction.

Q. Is engine oil level low?

A. Fill oil tank with specified engine oil.

Q. Is engine oil level low?

A. Fill oil tank with specified engine oil.

Q. Is heat range of spark plug incorrect?

A. Inspect spark plug and replace it with recommended type.

Q. Is specified engine oil not being used?

A. Check and replace oil with specified type.

Q. Is oil filter clogged?

Have serviced by a dealer.

Q. Has oil feed/injection pump malfunctioned?

A. Have serviced a dealer.

Trouble Recovery

Q. Is load on boat improperly distributed?

A. Distribute load to place boat on an even plane.

Q. Is water pump or thermostat faulty?

A. Have serviced by a dealer.

Q. Is there excess water in fuel filter cup?

A. Drain filter cup.

Engine power loss.

Q. Is propeller damaged?

A. Have propeller repaired or replaced.

Q. Is propeller pitch or diameter incorrect?

A. Install correct propeller to operate outboard at its recommended speed (r/min) range.

Q. Is trim angle incorrect?

A. Adjust trim angle to achieve most efficient operation.

Q. Is motor mounted at incorrect height on transom?

A. Have motor adjusted to proper transom height.

Q. Has warning system activated?

A. Find and correct cause of warning.

Q. Is boat bottom fouled with marine growth?

A. Clean boat bottom.

Q. Are spark plugs fouled or of incorrect type?

A. Inspect spark plugs. Clean or replace with recommended type.

Q. Are weeds or other foreign matter tangled on gear housing?

A. Remove foreign matter and clean lower unit.

Q. Is fuel system obstructed?

A. Check for pinched or kinked fuel line or other obstructions in fuel system.

Q. Is fuel filter clogged?

A. Clean or replace filter.

Q. Is fuel contaminated or stale?

A. Fill tank with clean, fresh fuel.

Q. Is spark plug gap incorrect?

A. Inspect and adjust as specified.

Q. Is ignition wiring damaged or poorly connected?

A. Check wires for wear or breaks. Tighten all loose connections. Replace worn or broken wires.

Q. Have electrical parts failed?

A. Have serviced by a dealer.

Q. Is specified fuel not being used?

A. Replace fuel with specified type.

Q. Is specified fuel not being used?

A. Check and replace oil with specified type.

Q. Is thermostat faulty or clogged?

A. Have serviced by a dealer.

Q. Is air vent screw closed?

A. Open the air vent screw.

Q. Is fuel pump damaged?

A. Have serviced by dealer.

Q. Is fuel joint connection incorrect?

A. Connect correctly.

Q. Is heat range of spark plug incorrect?

A. Inspect spark plug and replace it with recommended type.

Q.Is high pressure fuel pump drive belt broken?

A.Have serviced by a local dealer.

Q.Is engine not responding properly to shift lever position?

A.Have serviced by a local dealer.

Engine vibrates excessively

Q.Is propeller damaged?

A.Have propeller repaired or replaced.

Q.Is propeller shaft damaged?

A.Have serviced By a local dealer.

Q.Are weeds or other foreign matter tangled on propeller?

A.Remove and clean propeller.

Q.Is motor mounting boly loose ?

A.Tighten bolt.

Q.Is steering pivot loose or damaged?

A.Tighten or have serviced by a local dealer.

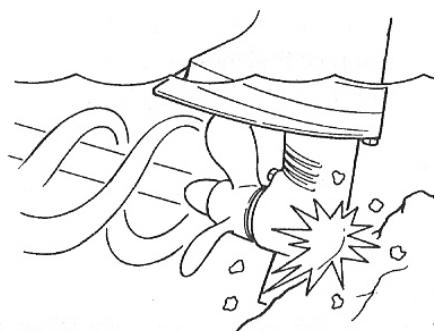
Temporary action in emergency

Impact damage

WARNING

The outboard motor can be seriously damaged by a collision while operating or trailering.Damage could make the outboard motor unsafe to operate.

If the outboard motor hits an object in the water, follow the procedure below.



1. Stop the engine immediately.
2. Inspect the control system and all components for damage. Also inspect the boat for damage.
3. Whether damage is found or not, return to the nearest harbor slowly and carefully.
4. Have a local dealer inspect the outboard motor before operating it again.

Starter will not operate

If the starter mechanism does not operate (the engine cannot be cranked with the starter), the engine can be started with an emergency starter rope.

WARNING

- Use this procedure only in an emergency to return to the nearest port for repairs.
- Attach the engine shut-off cord to a secure place on your clothing, or your arm or leg while operating the boat.
- Do not attach the cord to clothing that could tear loose. Do not route the cord where it becomes entangled, preventing it from functioning.
- Avoid accidentally pulling the cord during normal operation. Loss of engine power means the loss of most steering.

Trouble recovery

Control. Also, without engine power, the boat could slow rapidly. This could cause people

and objects in the boat to be thrown forward.

- Make sure no one is standing behind you when pulling the starter rope. It could whip behind you and injure someone.

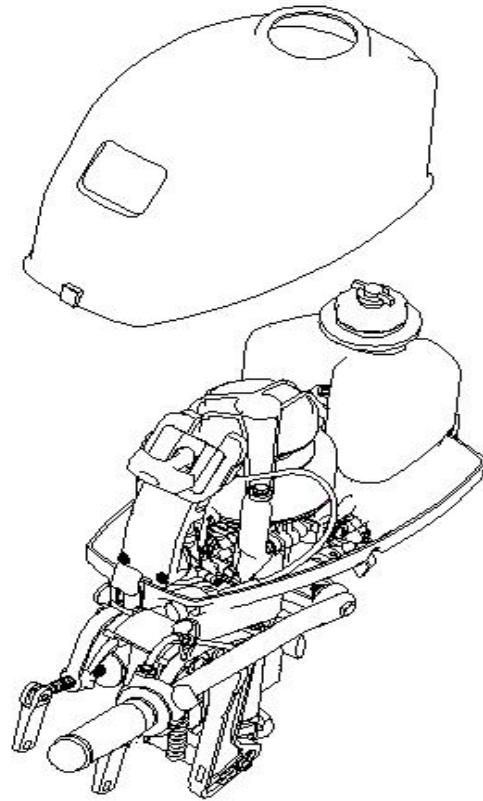
- An unguarded, rotating flywheel is very dangerous. Keep loose clothing and other objects away when starting the engine. Use the emergency starter rope only as instructed. Do not touch the flywheel or other moving parts when the engine is running. Do not install the starter mechanism or top cowling after the engine is running.

- Do not touch the ignition coil, spark plug wire, spark plug cap, or other electrical components when starting or operating the motor. You could get an electrical shock..

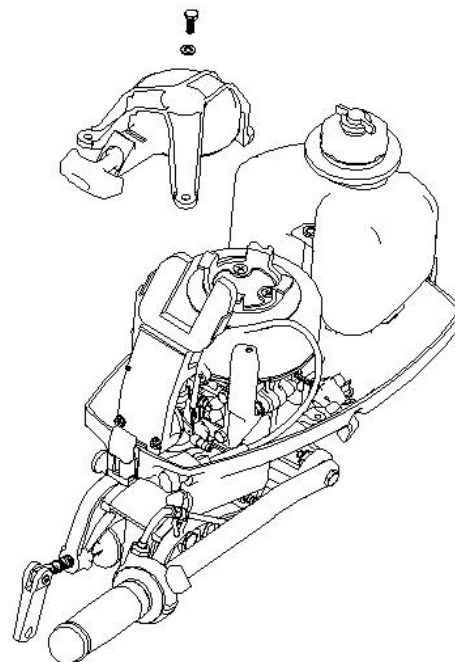
- Do not move the throttle lever above the start position when starting the engine. Because the propeller rotates whenever the engine is running, the boat could unexpectedly start to move, which could result in an accident.

Emergency starting engine

1. Remove the spark plug cap cover by removing the two screws.



1. Remove the 11 pcs screws, then take out the cowling and the cap of the spark plug.

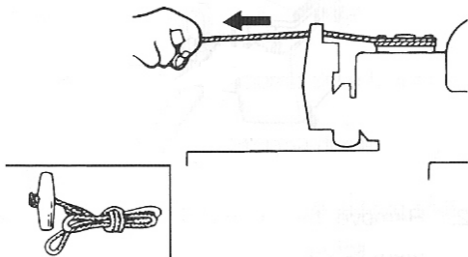


4. Prepare the engine for starting, for further information, see page 17.

5. Insert the knotted end of the rope into the notch in the flywheel rotor and wind the rope several turns around the flywheel one or two turns clockwise.

Trouble Recovery

6. Give a strong pull straight out to crank the engine. Repeat it necessary.



3. Drain the fuel from the carburetor, fuel filter, and fuel line.
4. Feed fogging oil or engine oil through the carburetor and spark plug holes while cranking with the manual starter or emergency starter rope.

Treatment of submerged motor

If the outboard motor is submerged, immediately take it to a local dealer. Otherwise some corrosion may begin almost immediately.

If you can not immediately take the outboard motor to a local dealer, follow the procedure below in order to minimize engine damage.

Procedure

1. Thoroughly wash away mud, salt, seaweed, and so on, with fresh water.



2. Remove the spark plugs and face the spark plug holes downward to allow any water, mud, or contaminants to drain.



5. Take the outboard motor to a local dealer as soon as possible.

CAUTION:

Do not attempt to run the outboard motor until it has been completely inspected.