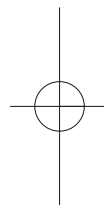


AHA

SX230

Owner's / Operator's Manual



TO THE OWNER

u for choosing a Yamaha
. This Owner's Manual con-
nation you will need for prop-
n, maintenance, and care. A
nderstanding of these simple
s will help you to obtain max-
joyment from your new
f you have any questions
operation or maintenance of
t Boat, please consult a
ealer.

Yamaha has a policy of con-
duct improvement, this prod-
ot be exactly as described in
's Manual. Specifications are
change without notice.

ual should be considered a
part of this Sport Boat and
main with it even if the boat is
tly sold.

IMPORTANT MANUAL INFORMATION:

In this manual, information of particular importance is distinguished in the following ways:



The Safety Alert Symbol means
ATTENTION! BECOME ALERT!
YOUR SAFETY IS INVOLVED!

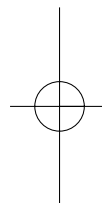
⚠ WARNING

**Failure to follow WARNING instruc-
tions could result in severe injury or
death to the machine operator, a
bystander, or a person inspecting or
repairing the Sport Boat.**

CAUTION:

**A CAUTION indicates special precau-
tions that must be taken to avoid
damage to the Sport Boat.**

NOTE: A NOTE provides key informa-
tion to make procedures easier or clear-
er.



SX230 SPORT BOAT SRT1000B/BC OWNER'S/OPERATOR'S MANUAL

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1st Edition, September 2003

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SX230

SPORT BOAT

SAFETY INFORMATION

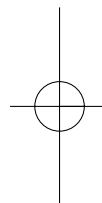
1

FEATURES & FUNCTIONS

2

OPERATION

3



MAINTENANCE & CARE

4

TROUBLESHOOTING & SPECIAL PROCEDURES

5

CONSUMER INFORMATION

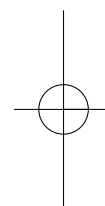
6



Chapter 1

SAFETY INFORMATION

IDENTIFICATION NUMBER RECORDS	1-1
Primary I.D. Number	1-1
Identification Number (H.I.N.)	1-1
Engine Serial Number	1-1
Labels	1-2
Revision Control Information	1-3
SAFETY LABELS	1-4
Location	1-4
Labels	1-5
SAFETY INFORMATION	1-8
Instructions On Who May Operate the Sport Boat	1-8
Required Equipment	1-9
Optional Equipment Recommendations	1-9
Operating Limitations	1-10
Operational Requirements	1-11
Warning Information	1-12
Sport Boat Characteristics	1-12
Safe Operation	1-13
Water-skiing	1-14
SAFETY ON THE ROAD	1-15
Boating and Sailing Rules	1-15
Rules When Encountering Vessels	1-16
Rules for Special Situations	1-17
Warning Buoys and Other Markers	1-18
ADDITIONAL BOATING SAFETY INFORMATION	1-19
Boating Education and Training	1-19
SAFETY REPORTING	1-20
BOATING OUR SPORT BOAT RESPONSIBLY	1-20



IDENTIFICATION NUMBER RECORDS

Record your Primary I.D., H.I.N., and engine numbers in the spaces provided to assist you in ordering spare parts from your Yamaha Sport Boat dealer. Also record and keep these I.D. numbers in a separate place in case your Sport Boat is stolen.

PRIMARY I.D. NUMBER

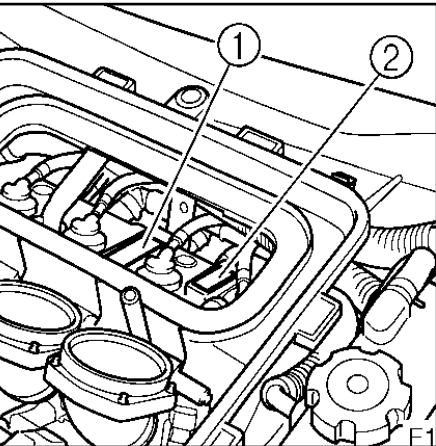


EMISSION CONTROL INFORMATION

This engine family conforms to U.S. EPA regulations for marine SI engines.

APPROVAL LABEL OF EMISSION CONTROL CERTIFICATE

This label is attached to the electrical box.

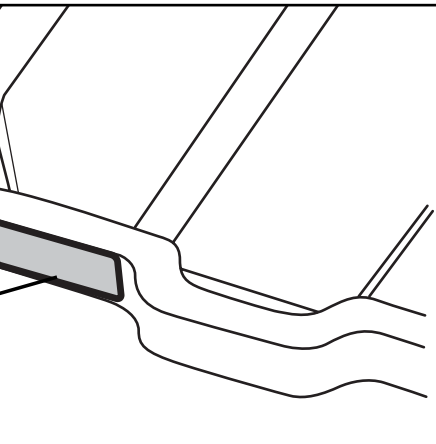


- ① Emission control information label

EMISSION CONTROL INFORMATION	
ENGINE FAMILY :	
THIS ENGINE CONFORMS TO U.S. EPA REGULATIONS FOR MARINE SI ENGINES	
FELS g/low - hr	SPARK PLUG GAP (mm) :
TROLLING SPEED : rpm	
YAMAHA MOTOR CO., CO, LTD.	

MANUFACTURED DATE LABEL

- ② Manufactured date label



YAMAHA	
Manufactured:	

⚠ WARNING

SEVERE INJURY OR DEATH:

USE U.S. APPROVED PERSONAL FLOTATION DEVICE (PFD).

U.S. Yamaha recommends a minimum 16 years old. Know the operator age and training for your state. A boating safety course is required in many states.

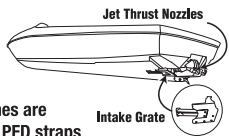


ATTACH SHUT-OFF CORD (LANYARD) to your PFD and keep it attached. The engines will stop if the operator leaves the helm. Failure to attach the shut-off cord could result in a runaway boat if operator is ejected. Remove engine shut-off cord and keys from boat to avoid children or others.

CONTROL IS IN NEUTRAL before starting engines.

REDUCE SPEED LIMITS AND AVOID AGGRESSIVE MANEUVERS to reduce the risk of ejection, and collision. This is a high-performance boat - high speeds or jumping wakes or waves can increase the risk of injury (sprain, laceration, facial injuries, and broken legs, ankles, and other joints), or death.

BE CAREFUL WHEN ANYONE IS AT REAR OF BOAT - turn engines off if anyone is at the rear, using the swim platform, or when swimming behind the boat. Jet Thrust Nozzles or debris exiting the jet can cause severe injury, facial injuries if water is inhaled (rectum and vagina).



DO NOT TAKE GRATES while engines are running. Long hair, loose clothing, or PFD straps can get caught in moving parts resulting in severe injury or drowning.

DO NOT CONSUME DRUGS OR ALCOHOL.

READ AND FOLLOW OWNER'S MANUAL.

F1C-419G-00

3

⚠ WARNING**REVERSE SHIFT LEVER OPERATION**

- Shift only while engine is idling or off.
- Reverse is for low speed maneuvering only.
- Do not use reverse function to slow down or stop boat as it could cause you to lose control, be ejected, or impact boat surfaces.

YAMAHA

F0R-U41D5-00

4

⚠ WARNING

Shut off engines when anyone is on the extended swim step.

Exhaust gases coming from underneath it contain carbon monoxide, a colorless, odorless gas which may cause brain damage or death when inhaled. Symptoms include nausea, dizziness, and drowsiness.

YAMAHA

F0R-U415P-00

5

⚠ WARNING

Gasoline vapors can explode.

Operate blower for at least 4 minutes and check engine compartment bilge for gasoline vapors before starting engines.

Do not start engines if there is a fuel leak or loose electrical connection.

YAMAHA

GP1-U416F-10

6

⚠ WARNING

Falling Hazard.

Falling on the deck or overboard may cause injury or death.

Hold on to the grips, remain seated and place feet on the deck when the boat is in motion.

YAMAHA

GP1-U418C-20

7

⚠ WARNING

Falling Hazard.

Falling on the deck or overboard may cause injury or death.

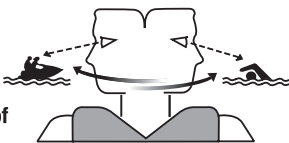
Do not sit here when the boat is moving.

F1C-U418C-00

⚠ WARNING

AVOID COLLISIONS OF SEVERE INJURY OR DEATH FROM COLLISIONS:

BE CAREFUL for people, other watercraft, and obstacles that limit your vision of the water.



TRAVEL at safe speeds and keep a safe distance from other watercraft. Do not travel directly behind other watercraft. Do not spray or splash them with water. Do not make turns or other maneuvers that make it hard for others to see you or understand where you are going. Do not travel near submerged objects or shallow water.

BE CAREFUL to avoid collisions. Remember, boats do not stop on a dime.

REDUCE THROTTLE LEVERS BACK TO IDLE WHEN TRYING TO avoid collisions - you need throttle to steer. Always use shift, and steering controls for proper operation at all times.

Follow all rules and state and local laws that apply to your area. See Owner's Manual for more information.

F0R-U416C-21

WARNING

ch or remove electrical parts
ing or running engine.

6R7-83623-40

MUM CAPACITIES

PERSONS OR 1800 LBS

00 LBS. PERSONS, GEAR

MPLES WITH U.S. COAST GUARD SAFETY
EFFECT ON THE DATE OF CERTIFICATION

RT1000

TENNESSEE WATERCRAFT
VONORE, TN

ANCE WITH NMMA REQUIREMENTS BELOW IS
R RESPONSIBLE FOR PRODUCTION CONTROL

ACITY * COMPARTMENT VENTILATION
G, FUEL AND ELECTRICAL SYSTEMS
TION LIGHTS * MANEUVERABILITY

TIONAL MARINE MANUFACTURERS ASSN.

EXTINGUISHER

ster to remove extinguisher.

F1C-U419B-00

PRI-H.D.
F1C

CORPORATION, U.S.A.
U.S.A. FROM AMERICAN AND JAPANESE
ÉTATS-UNIS DE PIÈCES AMÉRICAINES ET

1-7

Downloaded from www.Manualslib.com manuals search engine

REQUIRED EQUIPMENT

Coast Guard (USCG) has regulations which describe minimum equipment requirements of safety. You must comply with all regulations, which apply to your Sport Boat which are 16 feet long.

Personal Flotation Devices (PFDs):
Type I, II, or III as required for all persons on board (see “Operational Requirements” for more information). In addition, at least one Type IV PFD (Throwable type).

Fire Extinguisher:
At least one B-1 type hand-held fire extinguisher.

Distress Signals:
It is recommended that a USCG-approved pyrotechnic device be on your boat. A mirror can also be used as an emergency signal. Contact your Yamaha dealer or the Coast Guard for more information.

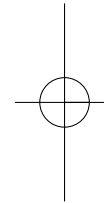
Signalling Device:
Your Sport Boat is equipped with a whistle that can be used to signal other boats. See “Rules of the Road” for more information.

Navigation Lights:
Your Sport Boat is equipped with navigation lights for use between sunset and sunrise, and during periods of reduced visibility, such as fog. Make sure these lights are working and are turned on when necessary. See page 2-12 and 3-9 for more information).

ADDITIONAL EQUIPMENT RECOMMENDATIONS

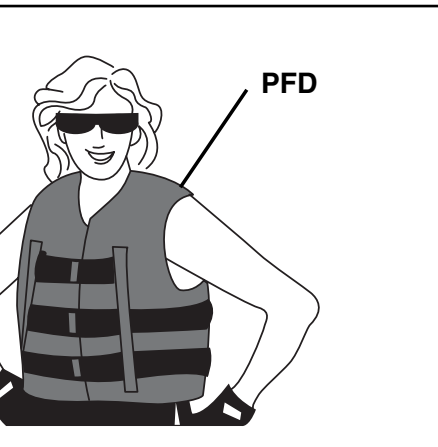
The following equipment can help make your boating experience safer and more enjoyable:

- Mooring fenders and lines
- Anchor with suitable line (a “Danforth” type anchor and line that is at least 6-times the depth of the water where you will drop anchor are recommended)
- Manual-type bilge pump
- First Aid kit
- Waterproof flashlight with extra batteries
- Tool kit with assorted screwdrivers, pliers, wrenches (including metric sizes), and electrical tape
- Oar or paddle (look for one with a boat hook on the other end)
- Spare parts, such as an extra set of spark plugs and fuses
- Navigation charts for the waters where you will be boating
- Tow rope



ADDITIONAL REQUIREMENTS

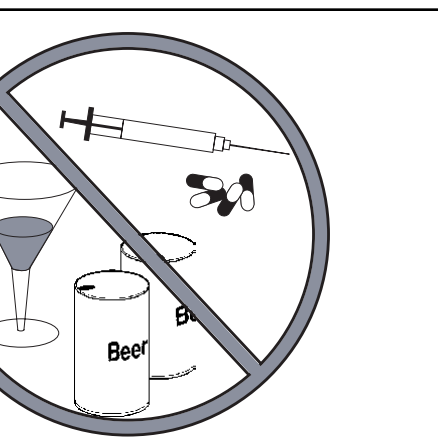
Passengers must wear a Coast Guard approved personal flotation device



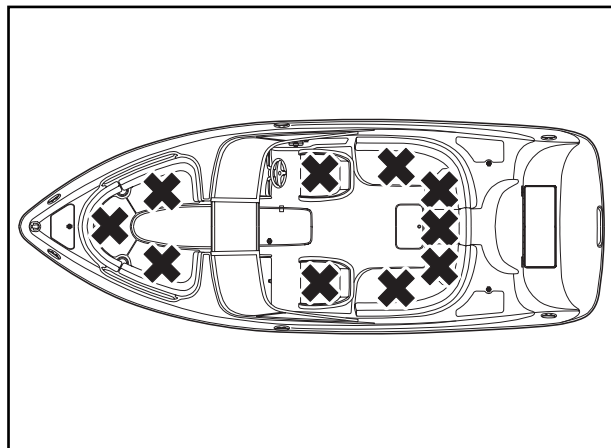
UV protection is recommended to protect your eyes from the sun, wind, water, and glare from the sun while you operate your Sport Boat. Restraining eyewear or eyewear made which is designed to float should you fall into the water.

Shoes and gloves are recommended.

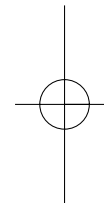
Do not operate the boat after consuming alcohol or taking drugs.



- For reasons of safety and proper care of the Sport Boat, always perform the pre-operation checks listed on page 3-4 before operating.
- Passengers must always sit in a designated seating area, place feet on the deck, and hold on to the hand grips when the boat is in motion.



- Always consult your doctor on whether it is safe for you to ride in this boat if you are pregnant or in poor health.
- Do not attempt to modify this Sport Boat! Modifications to your boat may reduce safety and reliability, and render the boat unsafe or illegal to use.



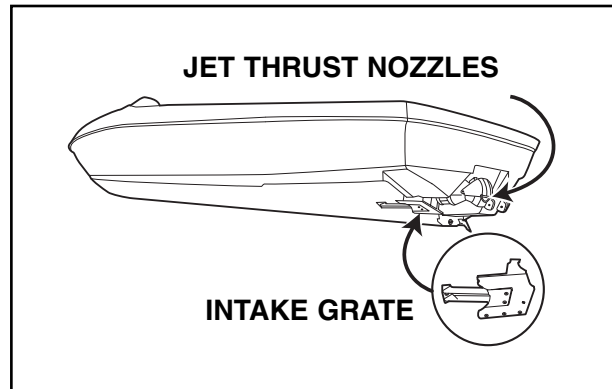
a trolling speed. Practice in an open area without obstructions until you have a good understanding of the maneuver.

Sport Boats are water-jet powered. The pumps are directly connected to the engines. This means that the jet thrust will produce forward movement whenever the engines are running. The Sport Boat has a “neutral” position, but the Sport Boat is always producing thrust while the engines are running, some forward or reverse movement may occur.

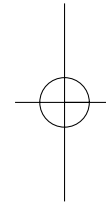
Do not use the reverse function to stop the boat as it may cause you to lose control, be in contact with the steering wheel, or impact the steering wheel or other parts of the boat. This could increase the risk of serious injury. It could also damage the steering mechanism.

The throttle can be used to slow down the boat during slow speed maneuvers such as when docking. Once the engine is idling, shift to reverse and gradually increase engine speed. Make sure that there are no obstacles or people behind you before shifting into reverse.

Keep people and objects away from the intake grates while the engine is on. Items such as hair, loose clothing, or PFD can become entangled in the pump parts resulting in severe injury or drowning.

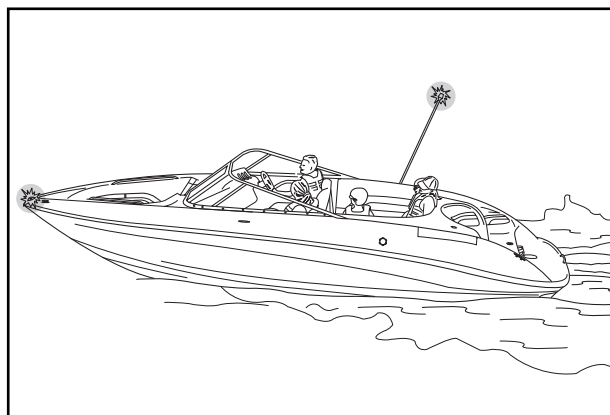


- Stop the engines and remove the clip from the engine shut-off switch before removing any debris or weeds, which may have collected around the jet intakes.
- Never insert any object into the jet thrust nozzle while the engine is running. Severe injury or death could result from coming in contact with the rotating parts of the jet pump.



NIGHT OPERATION

- When using your Sport Boat before dawn or after dusk, you must have both bow and stern lights operating. When at anchor in the dark, the stern light must be lit. See page 2-12 for instructions.



RIGHT-OF-WAY RULES OF THE ROAD

A Sport Boat is legally considered a powerboat. Operation of the vessel must be in accordance with the rules and regulations governing the waterway on which it is used.

There are rules that apply when driving on streets and highways. There are waterway rules that apply when you are operating your vessel. These rules are used internationally and are also enforced by the U.S. Coast Guard and local authorities. You should be aware of these rules, and follow them whenever you encounter another vessel on the water.

These rules prevail according to the vessel's location, but are all basically the same as the International Rules of the Road. The rules presented in the Owner's/Operator's Manual are the same as those used, and have been provided for your convenience only. Consult the U.S. Coast Guard Auxiliary or the Department of Motor Vehicles for a complete set of rules governing the waterway in which you will be operating.

RIGHT-OF-WAY AND SAILING RULES

When two vessels are on the water and one vessel has the right-of-way, it is called the "stand-on" vessel. The vessel that does not have the right-of-way is called the "give-way" vessel. These rules determine which vessel has the right-of-way and what each vessel should

Stand-On Vessel

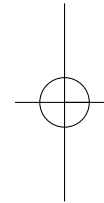
The vessel with the right-of-way has the duty to continue its course and speed, except to avoid an immediate collision. When you maintain your direction and speed, the other vessel will be able to determine how best to avoid you.

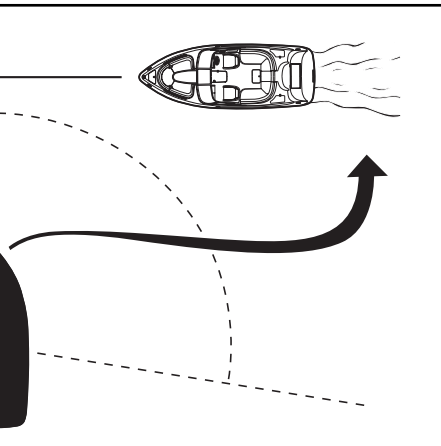
Give-Way Vessel

The vessel which does not have the right-of-way has the duty to take positive and timely action to stay out of the way of the stand-on vessel. Normally, you should not cross in front of the vessel with the right-of-way. You should slow down or change directions briefly and pass behind the other vessel. You should always move in such a way that the operator of the other vessel can see what you are doing.

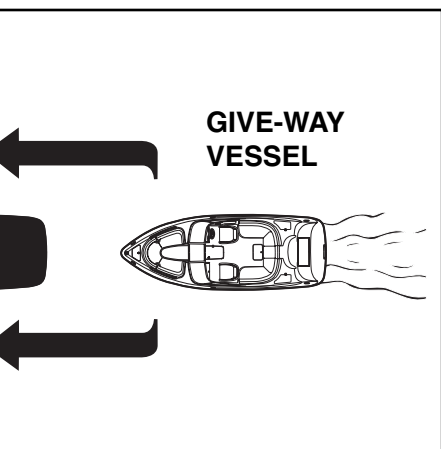
The General Prudential Rule regarding the right-of-way is that if a collision appears unavoidable, neither boat has the right-of-way. Both boats must avoid the collision.

In other words, follow the standard rules except when a collision will occur unless both vessels try to avoid each other. If that is the case, both vessels become give-way vessels.





g
passing another vessel, you
ve-way vessel. This means
ther vessel is expected to
ts course and speed. You
out of its way until you are
Likewise, if another vessel is
u, you should maintain your
direction so that the other
steer itself around you.



SPECIAL SITUATIONS

three other rules you should
of when operating your boat
er vessels.

Narrow Channels and Bends

When navigating in narrow channels, you should keep to the right when it is safe and practical to do so. If the operator of a power-driven vessel is preparing to go around a bend that may obstruct the view of other water vessels, the operator should sound a prolonged blast of four to six seconds on the horn. If another vessel is around the bend, it too should sound the horn. Even if no reply is heard, however, the vessel should still proceed around the bend with caution.

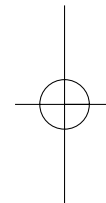
Fishing Vessel Right-of-Way

All vessels fishing with nets, lines or trawls are considered to be “fishing vessels” under the International Rules. Vessels with trolling lines are not considered fishing vessels. Fishing vessels have the right-of-way regardless of position. Fishing vessels cannot, however, impede the passage of other vessels in narrow channels.

Sailing Vessel Right-of-Way

Sailing vessels should normally be given the right-of-way. The exceptions to this are:

1. When the sailing vessel is overtaking the power-driven vessel, the power-driven vessel has the right-of-way.
2. Sailing vessels should keep clear of any fishing vessel.
3. In a narrow channel, a sailing vessel should not hamper the safe passage of a power-driven vessel that can navigate only in such a channel.



Buoys and Other Markers

Buoys of the United States are used to mark safe navigation by the lateration of buoyage. Simply put, buoys and markers have an arrangement of shapes, colors, numbers and letters to show which side of the buoy a vessel should pass on when navigating in a particular direction. The markings on buoys are oriented from the perspective of being entered from seaward. A boater is going towards the buoy when red buoys are passed on your (right) side when proceeding into port, and black buoys are passed to your port (left) side. An easy way to remember the meaning of the colors is the phrase "red right" (red buoys to the right). When navigating out of the harbor, the positions with respect to the buoys should be reversed; red buoys to port and black buoys to starboard.

These waters are used by boaters within the boundaries of a state. The Uniform State Water Marking System has been adopted in these waters.

Boaters use buoys and signs with different shapes and colors to show different types of information. Buoys are white with black lettering and orange borders. They signify different types of areas, danger zones, and general information.

Also, markings may vary by geographic location. Always consult local authorities before riding your boat in unfamiliar waters.

TO GET MORE BOATING SAFETY INFORMATION

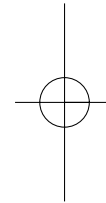
Be informed about boating safety. Additional publications and information can be obtained from many organizations, including the following.

United States Coast Guard
Consumer Affairs Staff (G-BC)
Office of Boating, Public, and
Consumer Affairs
US Coast Guard Headquarters
Washington, D.C. 20593-0001

Boating Safety Hotline:
1-800-368-5647

Other Sources:

You can find local rules by contacting the National Association of State Boating Law Administrators, or your local Power Squadron.



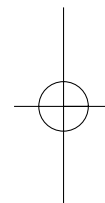
BOAT EDUCATION AND TRAINING

The Online Boating Safety Course, available through the watercraft section of the yamaha-motor.com website, is a free, 50-question learning course available to the public. Upon successful completion of 80 percent or better, the user can request a certificate of completion by mail or can download one immediately. The Online Boating Safety Course, provided by the Boat/US Foundation, is approved by the National Association of State Boating Law Administrators (NASBLA) and recognized by the United States Coast Guard. This course meets the education requirement for those states that recognize non-proctored, NASBLA-approved courses.

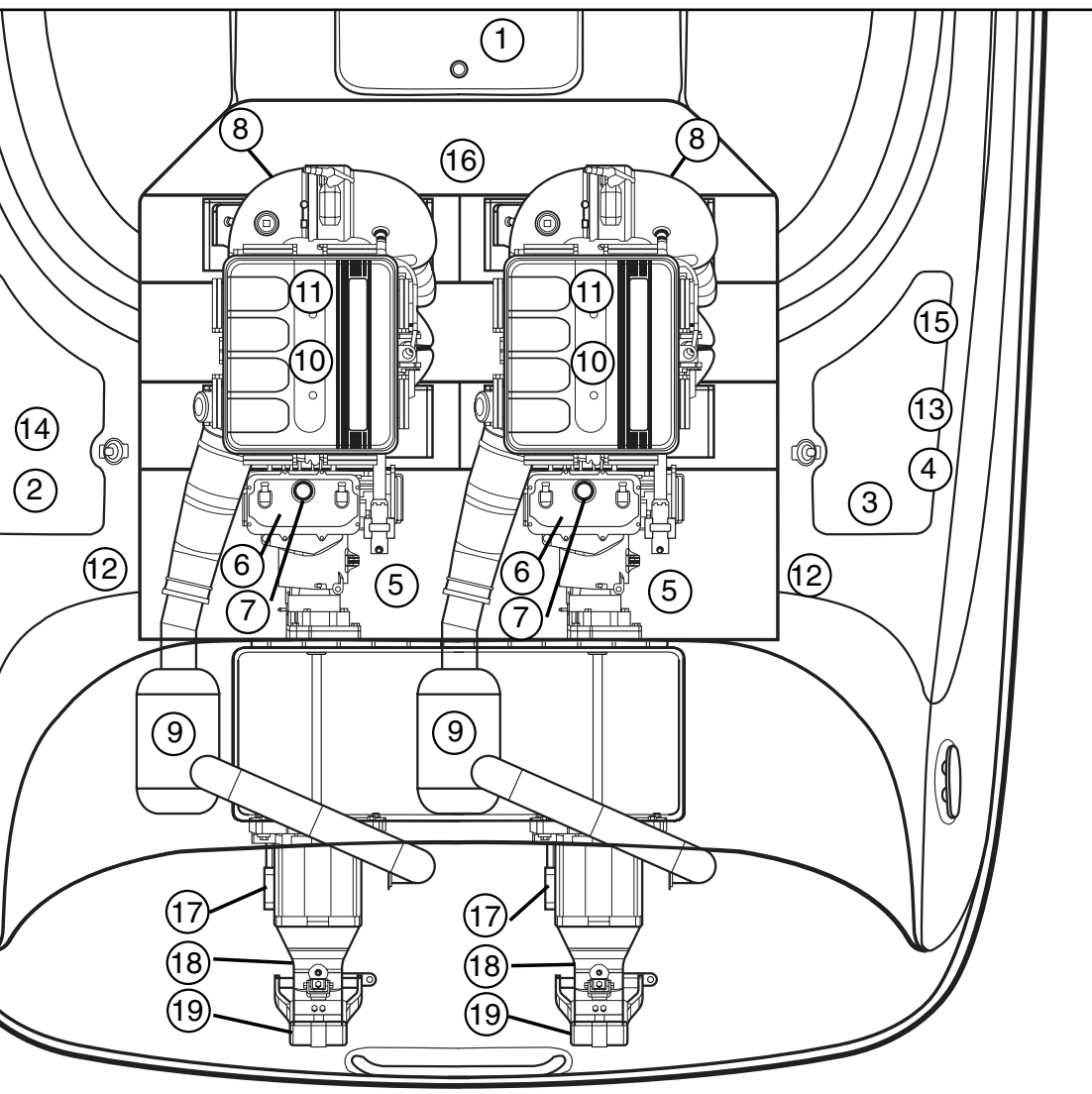
Chapter 2

FEATURES & FUNCTIONS

OF MAIN COMPONENTS	2-1
ON OF CONTROLS AND OTHER FUNCTIONS	2-5
ring	2-5
ever	2-5
ne Shut-Off Switch	2-6
Switches	2-6
ttle/Shift Levers	2-7
Tank Filler Cap	2-9
ges	2-9
heat Warning System	2-13
ches	2-14
el Seat Operation	2-15
eo System	2-15
ne Hood	2-16
ge Compartments	2-16
t Walk-Through	2-18
Walk-Through	2-18
n Platform	2-19



LOCATION OF MAIN COMPONENTS



ures:

k

Motor

board Features:

Attachments

al Boxes

s
Cap/ Dipstick

Boxes

Plugs/ Spark Plug Caps

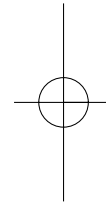
- ⑪ Air Filter Cases
- ⑫ Hood Supports
- ⑬ Engine Compartment Vent Outlets
- ⑭ Engine Compartment Vent Inlets
- ⑮ Fuel Tank Compartment Air Ventilation
- ⑯ Fuel Tank Compartment Drain Plug
- ⑰ Jet Pumps
- ⑱ Jet Thrust Nozzles
- ⑲ Reverse Gate

FEATURES & FUNCTIONS **2**

LIST OF MAIN COMPONENTS:

Light
Eye
e Compartments
Anchor Locker
Handles

Easy Lights
Jump Access Hatch
e/Shift Levers
Locker
Light Storage
Light Socket
w Hook
ump Clean-out Access Panel
Clean-out Interlock Switches
boarding Step
ory Pedestal Table Mounts
ustable Steering Wheel
Box
Walk-Through Folding Windshield
g Walk-Through Transom Seat Back
Extinguisher Holder

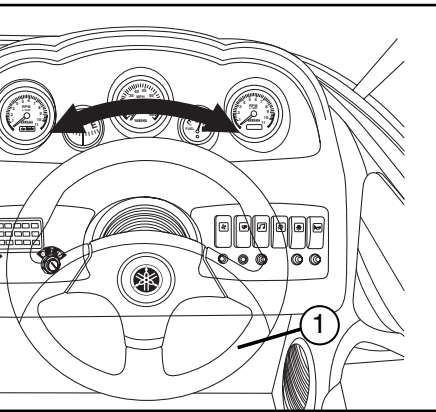


LIST OF STEREO COMPONENTS:

e Control Keypad
ers
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ayer/Receiver

OPERATION OF CONTROLS AND OTHER FUNCTIONS

G

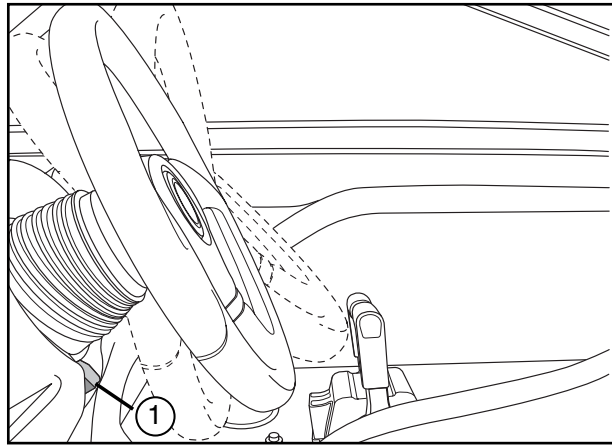


g wheel

Boat can be steered by turning the steering wheel the same direction to travel, to the right or left. When the wheel is turned, the direction of the jet (output) nozzles at the stern of the craft is changed, and the direction of the nozzles determines the direction of the boat's turn. Since the strength of the throttle determines the speed and direction of a turn, the throttle must be opened above idle when making a turn, except at trolling.

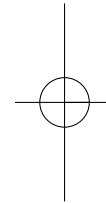
Boats steer from the stern. When the stern of the boat swings out in the opposite direction of your turn. If you turn to the starboard (right), for example, the stern of the boat will swing to the left. Keep this in mind when navigating near a person in the water, such as a down skier, or an object such as a dock.

TILT LEVER



The tilt lever ① is located under the steering wheel and is used to adjust the tilt of the steering wheel. There are three positions.

To adjust the tilt, pull the lever up, and then move the steering wheel up or down to the desired position. The lever will lock into place when the wheel is moved into one of the three available positions.



⚠ WARNING

- **Never touch the tilt lever during operation, otherwise the steering wheel could suddenly change position, which may lead to an accident.**
- **Be sure the steering wheel is locked in position after adjustment. If the steering wheel is not locked in position, it may suddenly change position during operation, which may lead to an accident.**

circuits are switched off. The engine cannot be started but other systems will operate. (The key can be removed).

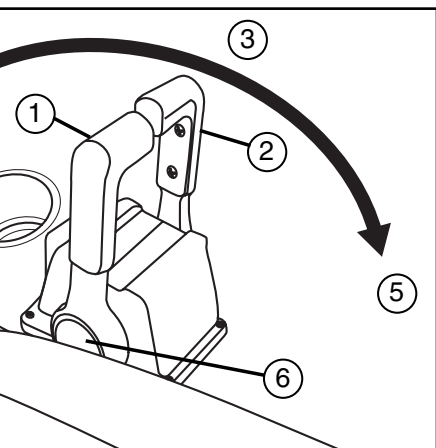
Circuits are switched on. (The key can be removed).

The starter motor will turn to start the engine when the key is released, it automatically returns to "ON."

The engine will not start when the shut-off cord clip is removed from the engine stop switch. The starter motor will turn over without the battery attached.

The ignition switch will not operate (the starter motor will not turn over) if the battery switch in the battery compartment is turned to the off position. See page 4-3 for more information.

SHIFT LEVERS



Shift Lever, port (left) side

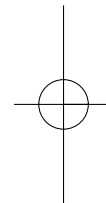
Shift Lever, starboard (right) side

Accelerator

⚠ WARNING

Before starting the engine, check the operation of each engine's throttle/ shift lever. It should move smoothly through the full range of operation. Otherwise, there could be loss of control and an accident.

A separate lever for each engine controls both throttle and shifting. In normal operation, the levers are moved together. Moving the levers forward from Neutral shifts into the Forward position and then, as the lever is moved farther, accelerates the engines for more thrust. Moving the levers back from Neutral shifts into the Reverse position and then, as the lever is moved farther, accelerates the engines for more thrust. The lever must be moved about 35° from Neutral before Forward or Reverse engages and the engine starts to accelerate.

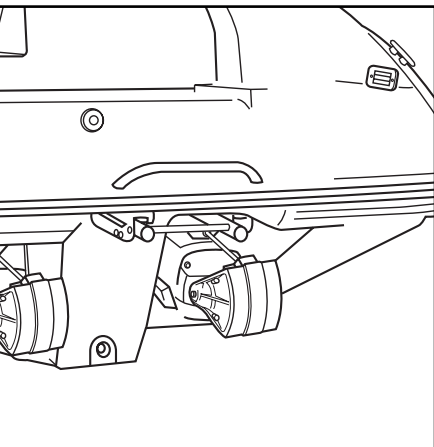


⚠ WARNING

SEVERE INJURY OR DEATH MAY RESULT IF YOU IGNORE ANY OF THE FOLLOWING.

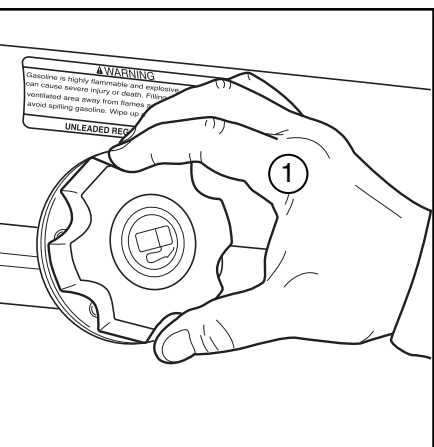
- Check throttle, steering, and shift lever for proper operation before starting the engines.
- Shift into neutral before starting engines.
- Make sure there are no people or objects behind the boat before starting or shifting into Reverse.
- When operating in Reverse, go slowly. Do not open the throttle more than half. Otherwise, the boat may become unstable, which could result in loss of control and an accident.

mp gates are dropped all the
ver the jet nozzles. Jet thrust
d toward the bow of the boat,
s the boat backward.



FUEL FILLER CAP

the fuel tank filler cap, turn it
clockwise.



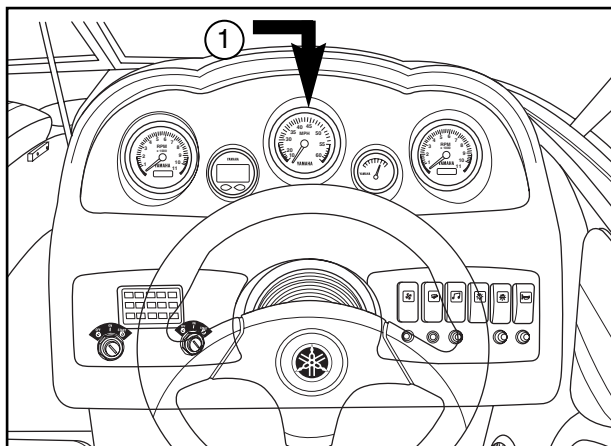
nk filler cap

o tighten the cap securely
rating.

GAUGES

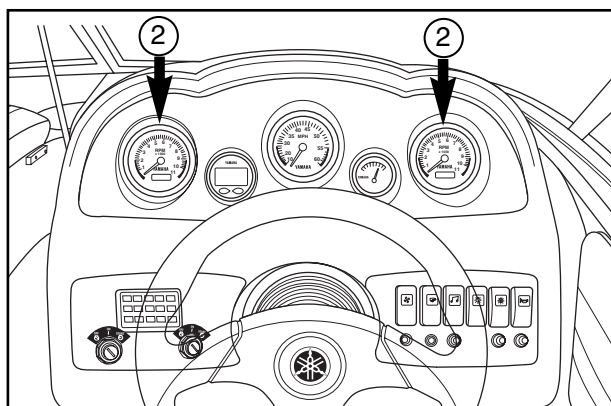
1. Speedometer

The speedometer ① shows the boat
speed in miles per hour (mph).

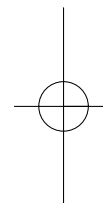


2. Tachometers

The Sport Boat has two tachome-
ters ② which display engine rpm.
The one on the left is for the port
engine. The one on the right is for
the starboard engine. For cruising,
adjust the throttle levers so both
engines are running at the same
rpm.



NOTE: Because of the mechanical
throttle linkage, the throttle levers may
not be exactly even with one another
when the engines are running at the
same rpm.



water, or if you suspect
water or submerged
as water depth may
too quickly to allow time
to react.

ely dirty water, very soft
high speeds, deep water,
ombination of the above
ult in incomplete or inac-
readings.

Measurement Unit

readout and alarm functions
to Feet (FT) or Meters (M).
t unit is Feet. If Meter depth
e preferred, this must be set
e.

e “UP” and “DOWN” keys at
e time.

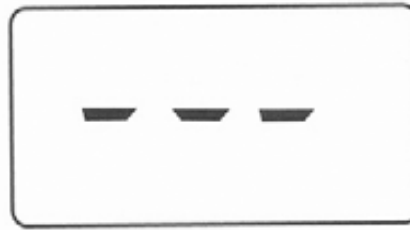


the units to feet press the
y. “FT” will flash on the dis-

ne units to meters press the
” key. “M” will flash on the

play automatically returns to
nal mode after 5 seconds.

remely dirty water, very soft
h speeds, deep water, or a
n of the above may result in
or inaccurate readings.
e conditions variable read-
-” will be displayed.



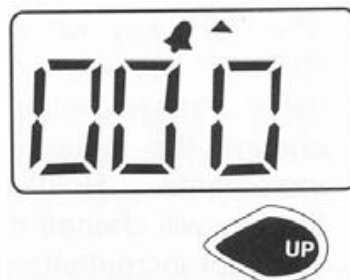
Setting the Shallow Alarm

The Shallow Alarm function can be set
for depths ranging from 3 to 199 feet (1
to 60.3 meters). When the depth is less
than the chosen setting, the alarm is
triggered. The alarm sounds an audible
“alarm” for 10 seconds while flashing
the Warning LED, as well as the Alarm
indicator and Shallow Alarm indicator
on the display.

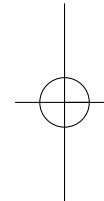
After 10 seconds the audible alarm
mutes, but the Warning LED and the
indicators continue to blink until the
depth increases, or the alarm is reset.

NOTE: Set the Shallow Alarm function
each time you wish to use it. The gauge
does not retain the setting after the
main switch is turned off.

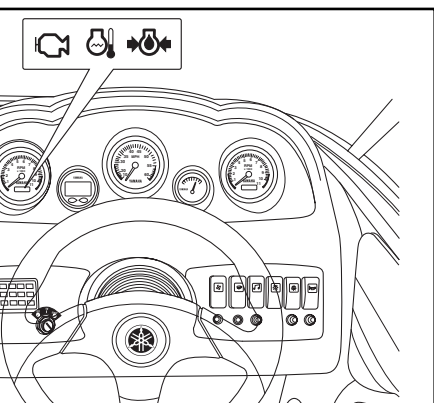
- 1) Press the “UP” key located on the
front of the display. The current
alarm setting will be displayed on
the display. “000” is the default set-
ting (no alarm function).



- 2) Press the “UP” key again within 5
seconds to increase the selected
value (more water depth before
alarm). Press the “DOWN” key to



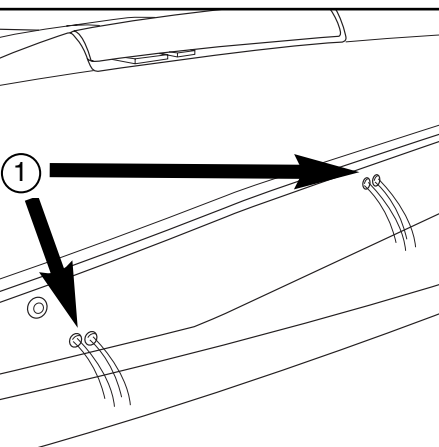
check the engine oil pres-



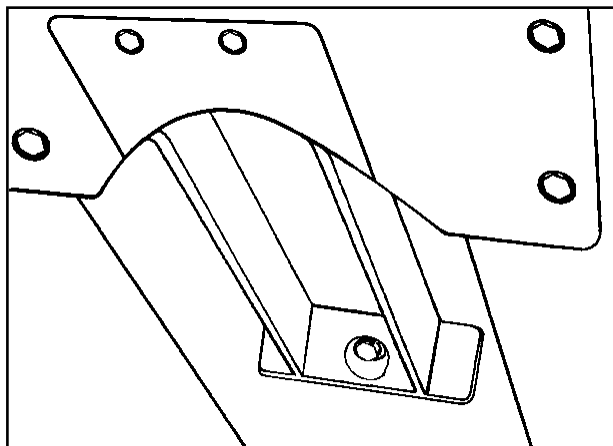
OVERHEAT WARNING SYSTEM

The boat has an overheat warning system. When the engine starts to overheat, the engine speed of the affected engine will be limited to 3000 rpm.

The boat is equipped with cooling water outlets ① on the starboard side of the hull. Check that water is flowing out of the outlet while the engine is running, particularly while idling. If you do not see any water flowing out of the outlet, cooling water may not be circulating in the engine.



If the cooling passages on the engine are dry, it will take about 20 minutes for water to reach the pilot out-let and start flowing.



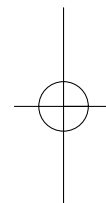
If water is not circulating, something may be clogging the jet intake grate. Refer to the Jet Pump Clean-Out procedures on page 5-5 for further information.

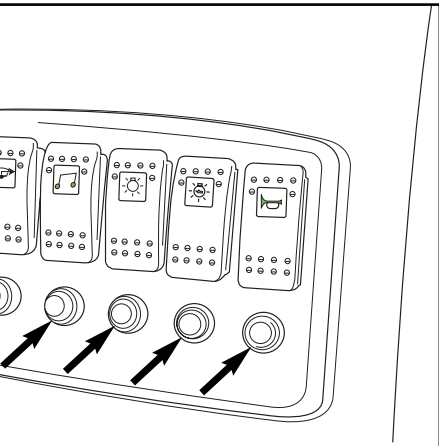
CAUTION:

If the cause of overheating cannot be found and corrected, take special precautions to avoid major engine damage while you return to shore.

SINGLE ENGINE OVERHEATING —
Shut off the overheating engine and use the properly running engine to return to shore. Operate at “no-wake” speed to prevent water from flooding the non-operating engine through the cooling water intake.

BOTH ENGINES OVERHEATING —
If getting a tow from another vessel is not possible, operate both engines just slightly above idle while you return to shore. If you can be towed, refer to “Towing the Sport Boat” on page 5-3.





There is also an accessory fuse
box (see page 4-15).

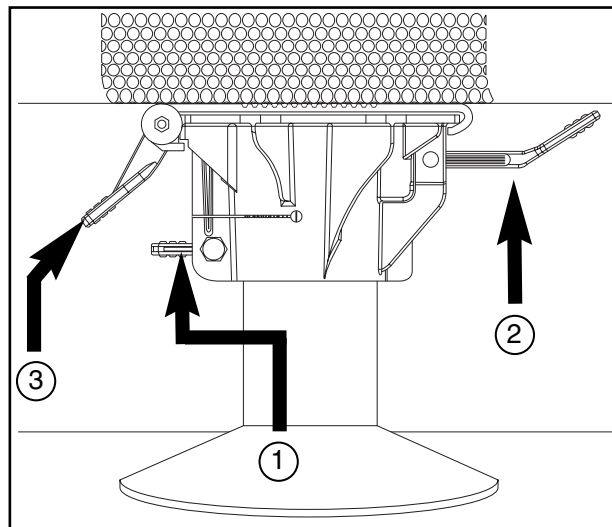
SEAT OPERATION

The helm and mid-ship passenger's
seats are two-way adjustable.

To move the seat forward or back, pull
up on lever ① located under the
seat. Move the seat to the
desired position, then release the lever.

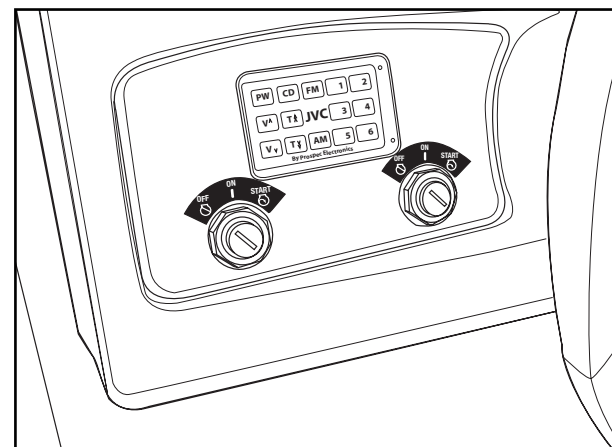
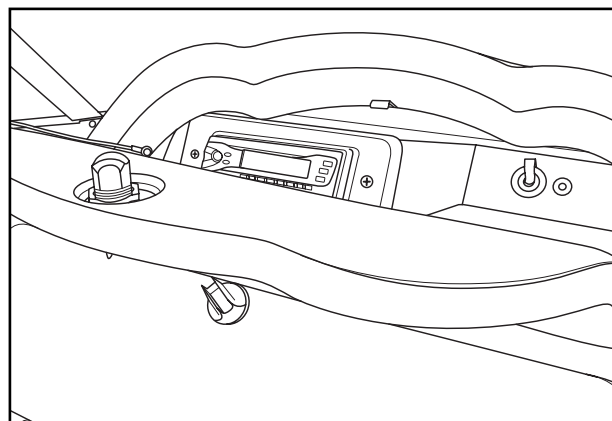
To rotate the seat, first move the seat to
the forward position. Then, pull up
on lever ② located under the side
of the seat. Release the lever once you
feel the seat pivot. The seat will pivot freely
and will automatically lock
into either front-facing or rear-facing
position. Use the rear-facing position of
the helm seat for an observer
when someone is water-skiing behind
the boat. There is also a friction
adjuster to adjust how easily the seat

The seat must always be locked into
either front-facing position and the
helm seat must be locked into either
front-facing or, if observing a
wake, the full rear-facing position
when underway.



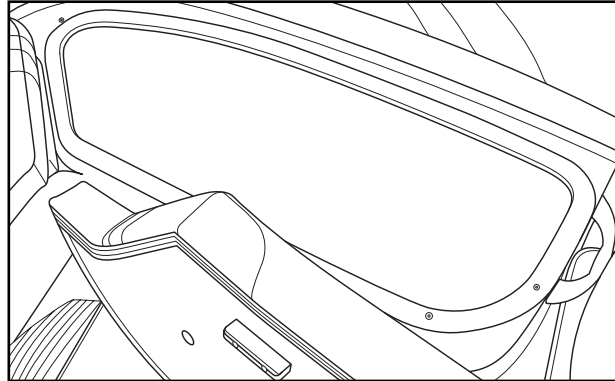
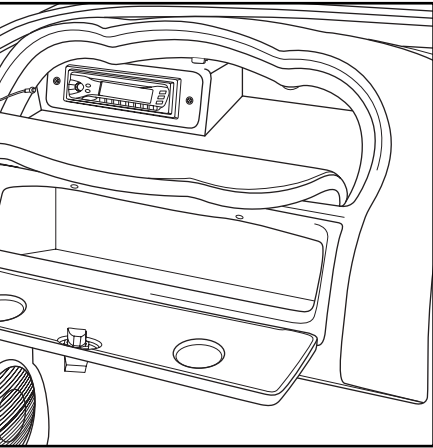
STEREO SYSTEM

A stereo CD player/receiver is stan-
dard. The system consists of the CD
player/receiver, four speakers, and a
remote control keypad at the helm.
Refer to the stereo system owner's
manual included with your boat.



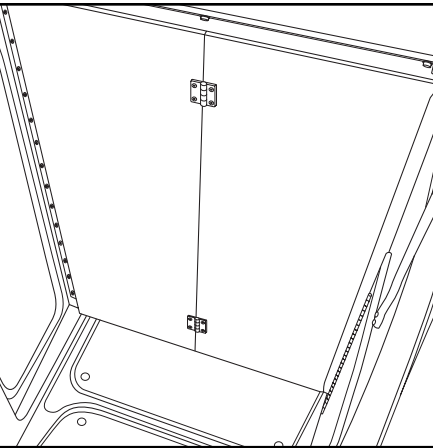
FEATURES & FUNCTIONS **2**

Under Rear Side Seats

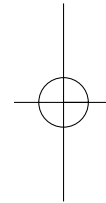
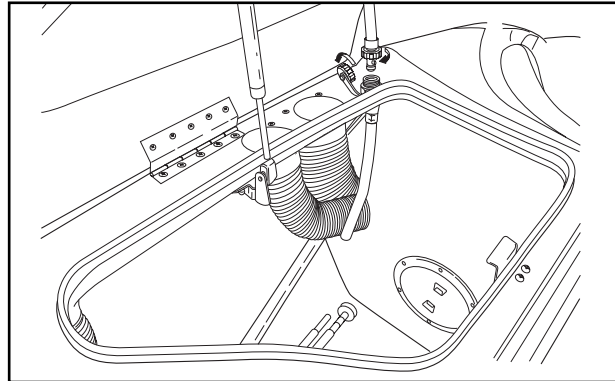


Pull up the seat cushions to access the storage compartments.

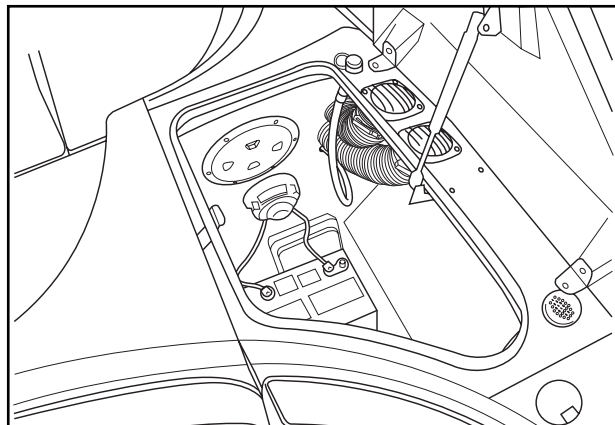
Console



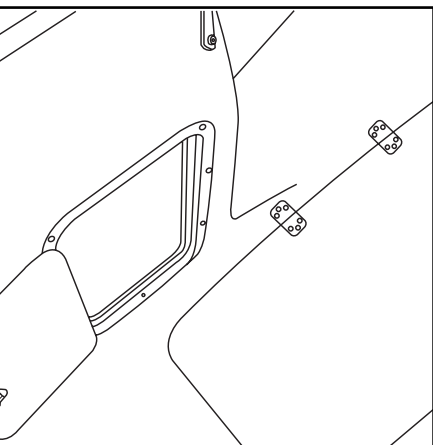
Starboard Side Rear Compartment



Port Gunwale Battery Compartment



de Console



⚠ WARNING

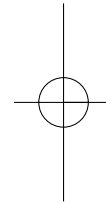
Do not carry any flammable substances in the battery compartment or any heavy or metal items that can damage the battery or cause a short circuit. Sparks or fire could result.

PLATFORM

platform area provides a stand or sit while putting on wakeboard, and includes a wake boarding from the water use the ladder, pull it out underneath the swim platform drop down. Before operating return the ladder to its storage

WARNING

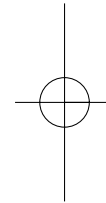
from the swim platform the engines are running. gases coming from under-b contain carbon monoxide, a odorless gas which may in damage or death when symptoms include nausea, and drowsiness.



Chapter 3

OPERATION

ADD OIL	3-1
Gasoline	3-1
Engine Oil	3-2
ENGINE AND ENGINE OIL FILLING	3-2
Filling the Gasoline Tank	3-2
Engine Oil Level	3-2
OPERATION CHECKS	3-4
Check List	3-4
Check Points	3-5
STARTING	3-13
Starting the Engines	3-13
Stopping the Engines	3-15
Warm-Up Procedure	3-16
YOUR SPORT BOAT	3-17
Learning to Know Your Sport Boat	3-17
Learning to Operate Your Sport Boat	3-17
Launching the Sport Boat	3-18
Operating with Passengers	3-19
Recovering from the Water	3-19
Recovering from a Dock or Landing Jetty	3-20
Securing	3-21
Storing	3-21
Using a Dock	3-22
Working	3-22
Working	3-23
Working Wakes and Swells	3-24
OPERATION CHECKS	3-25
TRAILERING	3-27
Trailer	3-27
Trailer Checklist	3-27
Working Your Trailer	3-28
Working	3-29
Working	3-29
Working	3-30



FUEL AND OIL

IE

Use unleaded 87 octane (R+M) gasoline.

NG

FUEL AND ITS VAPORS ARE FLAMMABLE AND EXPLO-

Do not smoke when refueling, keep away from sparks, or other sources of igni-

Turn engines and turn ignition Off before refueling.

Refuel in a well-ventilated area. If the Port Boat is in the water, be sure it is securely moored to the dock. All passengers get out of the boat during refueling.

Do not spill gasoline. If a spill occurs, wipe it up immediately with dry rags. Always properly dispose of gasoline-soiled rags.

Do not overfill the fuel tank. Stop filling when the fuel level reaches the bottom of the filler neck. Do not fill up the filler because fuel expands as it warms up and could overflow.

Securely close the filler cap after refueling.

Do not swallow some gasoline, inhale a lot of gasoline

vapor, or get gasoline in your eyes, get immediate medical attention.

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

CAUTION:

Use only fresh gasoline that has been stored in clean containers.

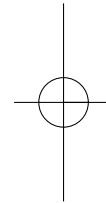
Gasohol

There are two types of gasohol: gasohol containing ethanol and that containing methanol. Gasohol containing ethanol can be used if ethanol content does not exceed 10% and the fuel meets minimum octane ratings. Gasohol containing methanol is not recommended by Yamaha because it can cause fuel system damage or engine performance problems.

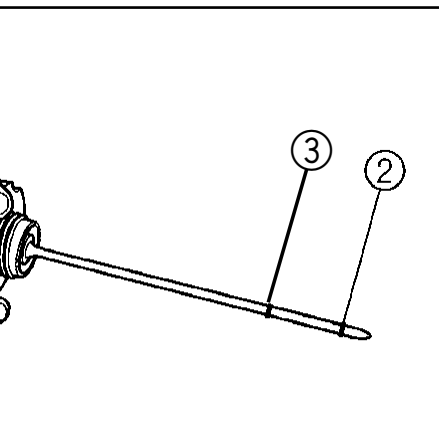
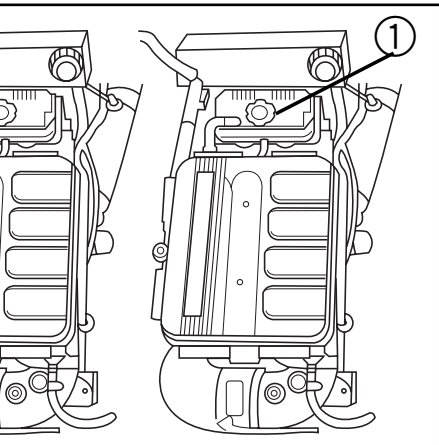
Ring Free Fuel Additive

Gasoline is a precise blend of many different substances, each chosen to give certain characteristics. Gasoline blends have been changing in recent years in response to concerns about pollution and resulting emissions regulations. One of the most obvious changes has been the elimination of lead from fuels.

As gasoline has changed, the amount of additives such as aromatics and oxygenates has increased. These additives are important for the engines in passenger cars, but they can have detrimental effects in marine engines.



oil, be sure the boat is level, on the water or on the trailer. Open the engine compartment by unlatching the two latches located on the front of the rear seat.



Oil Level Check

1) Remove the oil tank filler cap ①, wipe the dipstick with a clean rag, and then screw the cap on securely. Remove the cap again and check the oil level.

2) The oil level should be between the minimum and maximum level marks. If the level is below the "L" mark ②, then add only enough oil to raise the level above the "L" mark but never above the "F" mark ③.

3) Repeat for the other engine.

result in an overfilled engine once it warms up.

4) Repeat for the other engine.

Warm Engine Check

1) Be sure the engine is warmed to operating temperature.

NOTE: The engines are at the proper operating temperature after they have been run for 5 minutes or more at 7,000 rpm or above and then at a trolling speed for 2~3 minutes. If the boat is on the trailer, run the engine with the flush attachment at an idle speed for 6 to 8 minutes, or at least 13 minutes if air temperature is 59° F (15°C) or colder.

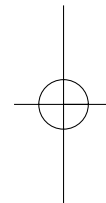
2) Remove the oil tank filler cap ①, wipe the dipstick with a clean rag, and then screw the cap on securely. Remove the cap again and check the oil level.

3) The oil level should be between the minimum and maximum level marks. If the level is below the "L" mark ②, then add only enough oil to raise the level above the "L" mark but never above the "F" mark ③.

4) Repeat for the other engine.

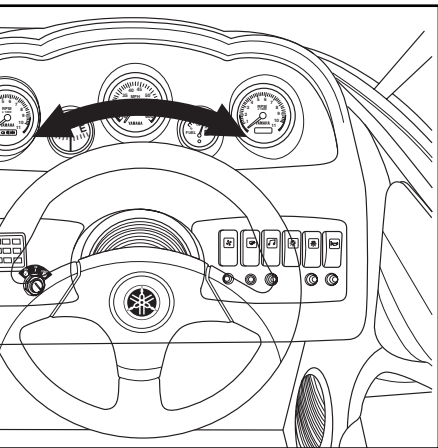
CAUTION:

If the level is above the "F" mark, the engine is overfilled. Consult a Yamaha dealer to have oil extracted from the engine to avoid damage.



Pre-operation checks should be performed each time the boat is used. This can be accomplished thoroughly in a short time. The added safety and reliability the checks assure is time well spent.

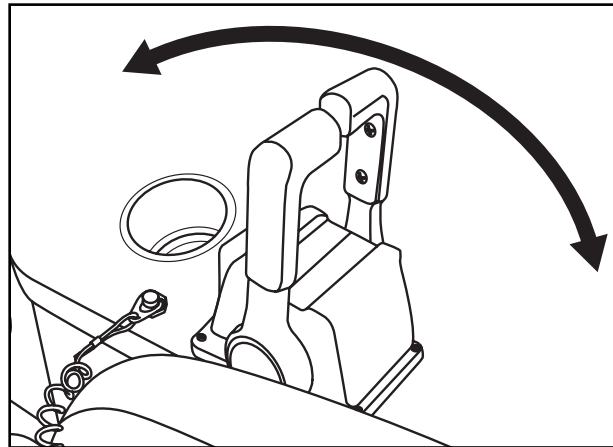
POINTS



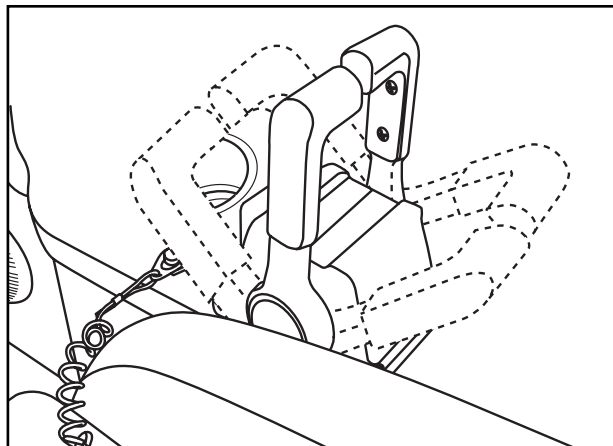
Make sure the wheel is not loose. There should not be any free play, side-to-side or in rotation. Turn the wheel full-right and full-left to make sure operation is smooth and consistent throughout the whole range.

Make sure both jet nozzles change direction as the steering wheel is turned. The jet nozzles should point straight ahead (right) when the wheel is straight ahead. The jet nozzles should point straight left (left) when the wheel is turned full-left. There should not be free play between the steering wheel and the jet nozzles.

Throttle/Shifters

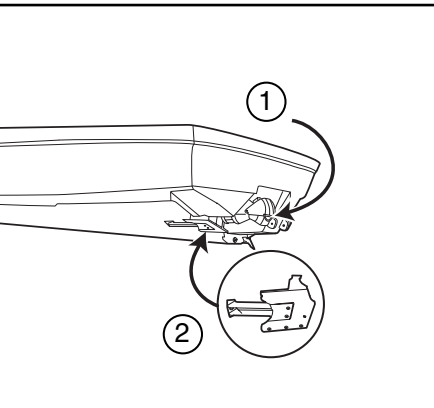


Move the control levers several times through their full range of motion. Operation should be smooth over the complete range of motion and the levers should return to Neutral without hesitation.



Before launching, make sure both jet pump gates drop down over the jet nozzles to their stopper positions when the control levers are moved to the Reverse position. Also be sure both jet pump gates return to the full-up stopper position when the levers are moved to the Forward position.

s



Jet Intakes Grates

When launching the Sport Boat, carefully check the jet intakes under the hull for weeds, debris, or anything else that might restrict the intake of water. If the intakes are clogged, cavitation occurs, reducing jet thrust, and potentially damaging jet pump parts. In addition, the engine may overheat due to lack of cooling water, and engine failure could result. Engine cooling is provided to the engine by the jet pump (see page 2-11).

Jet Pump Clean-Out procedure is on page 5-5 before attempting to remove weeds or debris from the jet pump or impeller areas.

WARNING

Improper use of the Sport Boat could cause severe injury or death. Before attempting to remove weeds or debris from the jet pump or impeller areas; shut off the engine, remove ignition key, then remove the engine shut-off switch cover and the shut-off switch.

Fuel System

Refer to page 4-11, “FUEL SYSTEM INSPECTION,” for correct procedure.

Fuel and Engine Oil Levels

- 1) Turn the main switch key to ON. Wait for the fuel gauge needle to stop moving, then note the fuel level. Add fuel if necessary.

NOTE: The fuel level is most accurate when the boat is sitting level on the trailer or in the water.

- 2) Open the engine hatch, remove the center storage tray, then check oil level in the engines. Add as necessary (see page 3-3).

Battery

The Sport Boat uses one battery. Check the battery condition and the battery electrolyte level. Make sure connections are tight and that battery is properly secured.

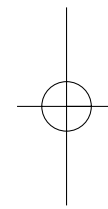
⚠ WARNING

The battery must always be fully charged and in good condition. Loss of battery power may leave you stranded. Never operate the Sport Boat if the battery does not have sufficient power to start the engine or if it shows any other signs of decreased power.

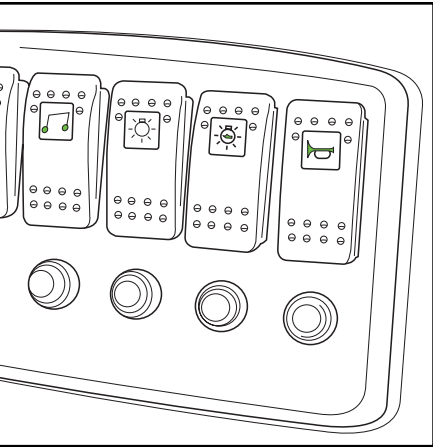
Drainage System

Self-Bailing Deck—

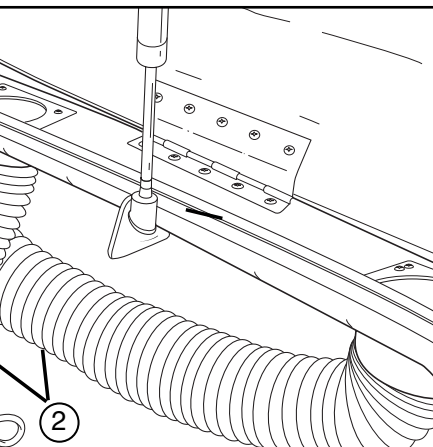
Most water which enters the deck area bails automatically out the stern



Compartment



Operate the bilge blower switch ① for 4 minutes before starting the engine. Open the engine hood and check for gasoline vapors or fuel leaks or loose electrical connections.

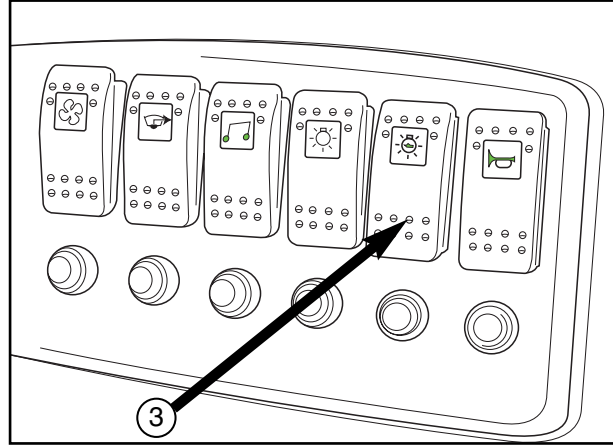


motor

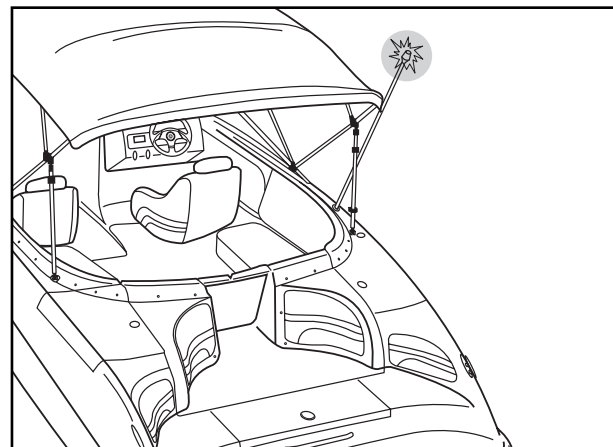
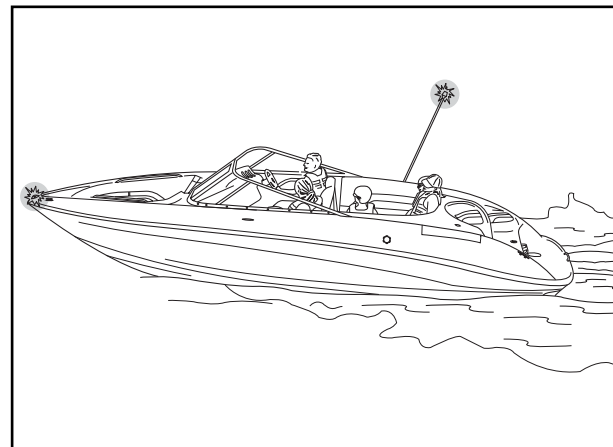
WARNING

Gasoline vapors can explode. Before starting the engines, operate the bilge blower for at least 4 minutes and check for gasoline vapors. Do not start the engine if you can smell fuel vapors in the engine compartment or if there are loose electrical connections. Contact your dealer if there is a problem you cannot locate or correct.

Lights



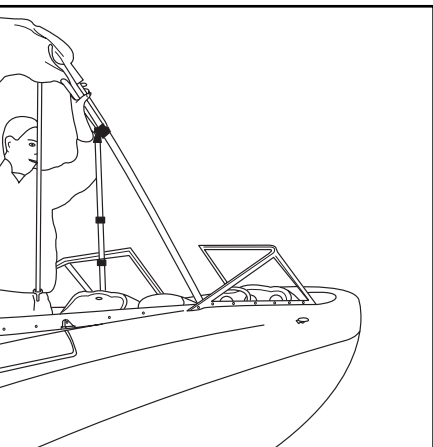
Check for proper operation of the bow, stern, and instrument lights by pressing the switch ③ on the control panel.



If the stern light is not installed, remove it from the storage area, lift the socket cover, and install it into the socket to check operation.

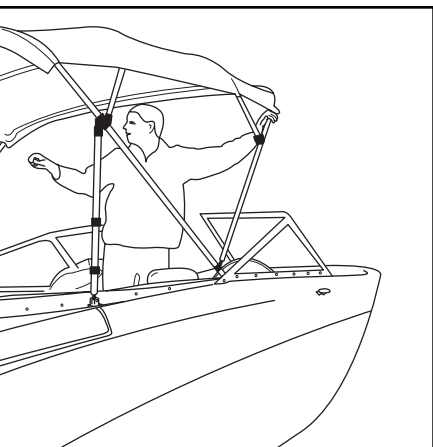
P
om the fully collapsed stor-
n.

assistant, raise the top and
the rear support poles to the
support pole mounts with the
s.

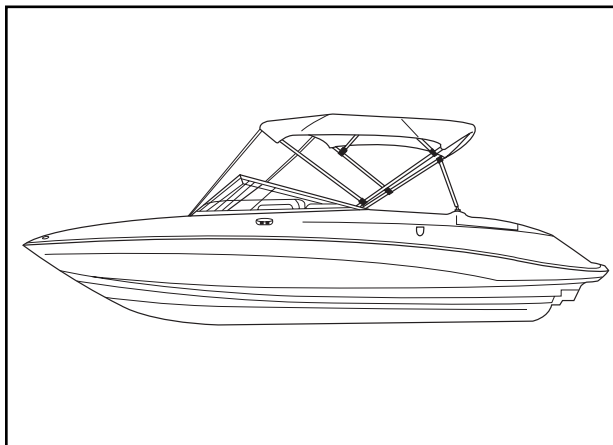


and remove the storage

the top by pulling to the bow
port Boat.



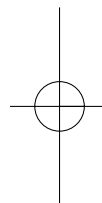
- 4) Attach the snap hooks to the strap eyes.



- 5) The top should be snug and wrinkle free. If the top is too loose or too tight, adjust the front straps by sliding the buckle up or down the strap as needed.

CAUTION:

Do not exceed 45 mph (72 km/h) with the bimini top in the up position.



OPERATION

STARTING THE ENGINES

WARNING

INJURY OR DEATH MAY
OCCUR IF YOU IGNORE ANY OF
THE FOLLOWING:

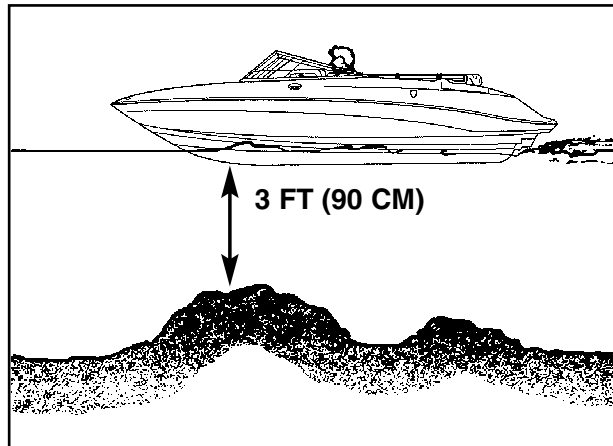
Before operating your Sport
Boat, become familiar with all
controls. Consult your Yamaha
manual about any control or func-
tion you do not fully understand.

Turn the engine shut-off switch
to your personal flotation
device before operating. Failure
to do so could result in a
capsized boat if operator is

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

Shift the gear lever to Neutral before starting
the engine. Put throttle levers in idle
position before shifting.

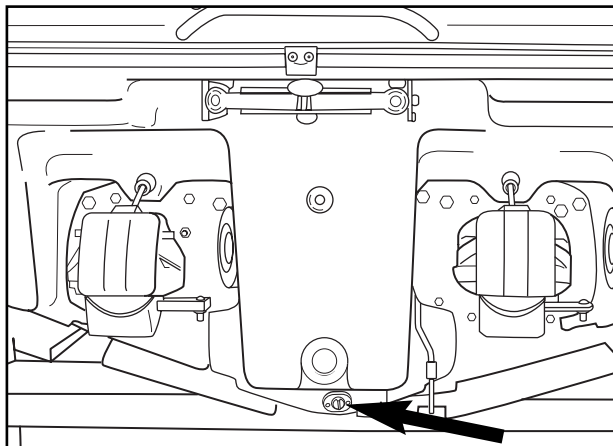
Do not start the engine or let it run
for a long time in an enclosed
space. Exhaust fumes contain car-
bon monoxide, a colorless, odor-
less gas that may cause loss of
consciousness and death within
a short time. Always operate the
boat in an open area.



- 1) Always make sure the boat is launched and used in waters that are free from weeds and debris, and at least 3 ft (90 cm) deep.

⚠ WARNING

Never operate in water that is less than 3 ft (90 cm) deep. You increase your chance of hitting an underwater obstacle. You could be injured. Pebbles or sand can also be sucked into the jet (water) intake, damaging the impeller.



CAUTION:

There is a hull drain plug at the bottom of the stern in the center. Be sure it is securely tightened before launching the Sport Boat.

NOTE:

Turn the ignition key to “Start” when the engine is running. Do not keep the starter motor running for more than 5 seconds. If the engine does not start after 5 seconds of cranking, release the starter button. Wait at least 15 seconds before trying to start the engine again. If the starter motor is engaged continuously for more than 5 seconds, the battery will be quickly discharged, and it will be impossible to start the engine. The starter motor may also become damaged if it is engaged continuously for more than 5 seconds.

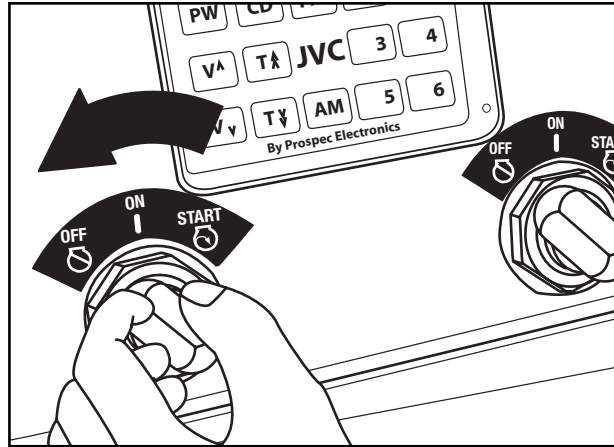
When the shift lever is put in the forward position or the starter motor is engaged, the engine will operate.

On a boat, the engines are connected directly to the drive unit. When either engine generates thrust immediately. Only a light throttle should be applied to the engine at a fast enough rate to keep it running.

NOTE:

Operate the Sport Boat with caution when the engine is running. Severe damage could result if water can flood the non-engine through the cool-intake. If single-engine operation is unavoidable, operate at a “no wake” speed only.

STOPPING THE ENGINES



To stop the engine, return the throttle levers to the idle position, then turn the main switches to “Off.” The engines can also be stopped by pulling the engine stop switch lanyard.

⚠ WARNING

Once the engine has stopped, you have **NO STEERING CONTROL** over the boat. You could collide with another boat, a dock, or other obstacle.

NOTE:

- Remove the ignition keys and the engine stop switch lanyard if the boat will be left unattended.
- Stopping the engines immediately after operating at high rpm is not recommended. Let the engines cool off at idle or low speed for a few minutes first.

DRIVING YOUR SPORT BOAT

TO KNOW YOUR BOAT

your Sport Boat requires learned through practice over a time. Take the time to learn techniques well before more difficult maneuvers.

h your new Sport Boat can enjoyable activity, providing hours of pleasure. But it is to familiarize yourself with the of the Sport Boat to achieve necessary to enjoy boating before operating this Sport this Owner's Manual, the Instruction Card, and all and Caution labels on the y particular attention to the rmation in Chapter 1. Read and caution labels on your

Boat is designed to carry or and up to nine passengers as the total weight of people does not exceed 1800 lb. Never have more than ten on the boat.

TO OPERATE YOUR BOAT

ating, always perform the tion Checks listed on page short time spent checking the condition will reward you safety and a more reliable

Know and follow U.S. Coast Guard, state, and local laws when operating your Sport Boat.

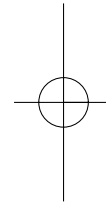
Select a wide area to learn in, where visibility is good and other boat traffic is light. Keep the proper distance from other boats and vehicles. Do not operate where people are swimming.

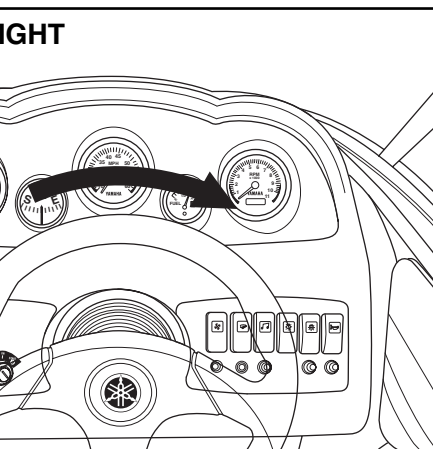
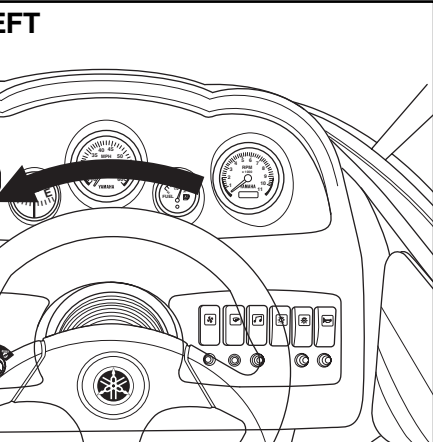
Always attach the engine stop switch lanyard to your personal flotation device before operating.

You and all other passengers must always wear a U.S. Coast Guard-approved personal flotation device when riding in the Sport Boat. You should consider wearing water shoes, eye protection, gloves, and other protective apparel. Water sports increase your risk of injury from contact with your boat, other vessels, docks, rocks, or coral.

A water-skier should wear protective clothing. Severe internal injuries can occur if water is forced into body cavities as a result of falling into the water or while reboarding. Normal swimwear does not adequately protect against forceful water entry into rectum or vagina. The skier should wear a wetsuit bottom or clothing that provides equivalent protection. Such clothing includes thick, tightly woven, sturdy and snug fitting apparel such as denim, but does not include spandex or similar fabrics like those used in bicycle shorts.

Grip the wheel firmly and keep both feet on the deck when driving the Sport Boat.



**WARNING**

Do not pull the throttle levers to idle when trying to steer from objects – you need to steer.

When passengers are holding on before making turns. An unprepared passenger could lose balance and fall.

BOATING WITH PASSENGERS

When one or more passengers are on board, the boat may handle differently, so operating it requires a higher degree of skill.

Remember: Your Sport Boat is designed for one operator and up to nine passengers only. Never have more than ten people in the Sport Boat. Passengers should sit so the weight in the boat is balanced from side-to-side and bow-to-stern as much as possible. If the passenger seat in front of the helm is used, be sure the operator's view ahead is not obstructed.

Passengers must sit in one of the seats and hold onto the grips while putting both feet on the deck.

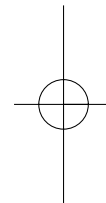
⚠ WARNING

When passengers are on board, make sure they are seated and holding on before you start to accelerate. An unprepared passenger could lose balance and fall.

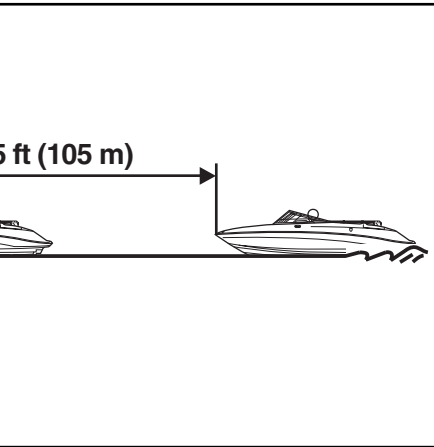
BOARDING FROM THE WATER**⚠ WARNING**

Severe internal injuries can occur if water is forced into body cavities as a result of being near the jet thrust nozzles.

- Do not board from the rear, use swim platform, or swim behind boat if engines are running.
- Stay away from the back of the boat when engines are running.



G



Boat is not equipped with a braking system. It is stopped by resistance after the throttle is moved back to idle. From full throttle, Sport Boat stops in approximately 5 ft (105 m) after the throttle is moved back to idle. The stopping distance varies depending on gross weight, water surface conditions, and wind direction. The stated straight-line stopping distance should be used for a reference only. The boat slows down as the throttle levers are returned to idle. It will coast for a distance before stopping. If you are not sure you have stopped in time before hitting an obstruction, apply throttle and turn in the opposite direction.

ING

Use steering control if you are not sure you have stopped in time before hitting an obstruction. Pull the throttle levers to full throttle.

G

Ensure no obstructions, boats or other vessels are close to the Sport Boat before you approach the dock.

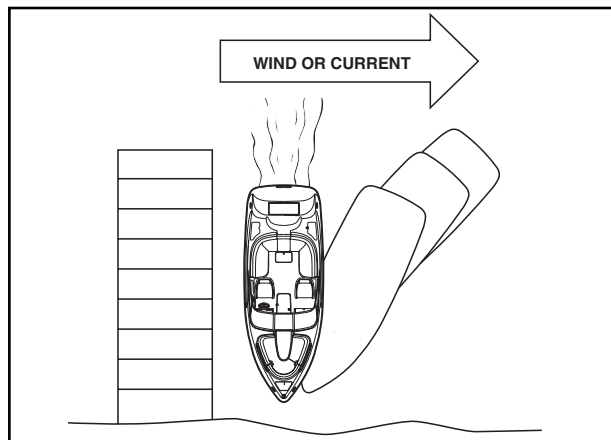
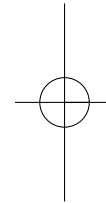
- 2) Notice how wind and water currents are affecting boat movement as you attach your mooring lines and fenders.
- 3) Approach the dock at idle speed. Use reverse as necessary during slow speed maneuvering to help control speed and direction. Position the boat according to wind and water conditions.

⚠ WARNING

Do not use your hand, arm, or other part of your body to try to keep the boat from hitting the dock. You could be injured if the boat pushes against the dock.

Wind or current pushing boat away from dock:

Slowly approach the dock at about a 45° angle. Secure the bow to the dock, then use engine thrust or a boat hook to gently move the stern to the dock.



ING

NG

Anchor from the bow. from the stern will make unsteady. A strong current a stern-anchored boat r.

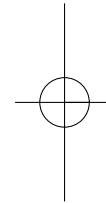
Anchor appropriate for your water conditions. A “danforth” type anchor is suitable for ations; your dealer can help e an anchor.

are the anchor line is secure- to the anchor and to the bow

e boat to the spot where you lower the anchor, heading t into the wind or current. e boat, then lower the anchor its bottom.

eeeping tension on the line, ack up the boat until you out line that is 4 to 6 times h of the water. For example, re anchoring in 10 feet of et out 40 to 60 feet of line. the line.

- 4) Pull on the line to be sure the anchor is holding. Also, periodically check your boat’s position against the shoreline to make sure it is not drifting and dragging the anchor. Reset it if necessary.
- 5) To pull in (“weigh”) the anchor, start the engines and move forward, keeping tension on the line as you pull it in. When the anchor line is straight up and down, pull hard to lift the anchor from the bottom material.
- 6) If the anchor is stuck on the bottom, try this: Let out a few feet of anchor line and secure the line to the boat, again. Slowly maneuver the boat around the anchor until the anchor pulls loose. Keep the line taut during this procedure.



POST-OPERATION CHECKS

OPERATION CHECKS

Post-operation procedures are to help preserve the long-life and reliability of your boat. Perform these procedures as soon as possible after the boat is back on the trailer after the

boaters plan to moor their boat rather than keeping it on the trailer between uses. The procedures described in this section may not apply if your Sport Boat is kept in the water. Boats which are kept in the water will require periodic removal from the water to clean the hull and jet drive units. The frequency of this maintenance will depend upon whether the boat is salt or fresh, as well as other conditions.

NOTE:

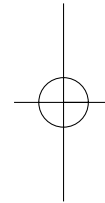
Leaving the boat in the water for long periods will accelerate the normal deterioration of the engine components and hull finish. Salt water, electrical voltage in the water, marine organisms, and salt corrosion are a few of the conditions that can adversely affect the operation of any Sport Boat component.

- 1) After putting the Sport Boat on the trailer, flush cooling system on each engine to prevent the cooling system from clogging up with salt, sand, or dirt. Refer to page 4-1 for the cooling system flushing procedure.
- 2) Drain residual water from the exhaust system by starting the engine, then alternately pushing the control lever up to half throttle and back to idle for 10 to 15 seconds.

CAUTION:

Never run the engine at full throttle or for more than 15 seconds while the boat is out of the water. The engine may overheat and/or seize.

- 3) Wash down the hull, helm, and both jet drive units with fresh water.
- 4) Open the rear platform hatch, and check for any water pooled on top of the clean-out port caps. If water is found, remove the caps, let water drain, then reinstall the caps. See Page 5-5 for more information.



TRAILERING

NG

Accident and injury from trailering:

Trailer must be matched for Sport Boat's weight and hull.

Towing vehicle must have the capacity of pulling the load. A load that exceeds the capacity may cause loss of control.

The boat is secured to the trailer and the trailer is properly hitched to the towing vehicle before towing.

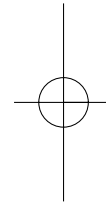
Trailer provided as standard equipment for your Sport Boat. If you need another trailer, choose one manufactured to carry a boat of the weight of your Sport Boat. Check the certification label on the left side of the trailer. This label is to show the Gross Vehicle Weight Rating (GVWR), which is the carrying capacity of the trailer plus its weight. Be sure that the weight of your boat, any cargo, and trailer weight itself does not exceed GVWR.

HITCH

The trailer hitch ball must match the size of the socket on the trailer hitch coupler. Hitches are divided into classes that specify the gross trailer weight (GTW) and the maximum tongue weight. Always use a hitch rated for the same or higher class. Use a bolted-on or welded-on hitch; clamp-on bumper hitches are not recommended. Be sure the trailer hitch's release handle is latched with the lock pin installed before towing.

Use safety chains between the towing vehicle and the trailer so the trailer will not detach completely from the towing vehicle if it accidentally comes loose from the hitch ball. Crisscross the chains under the trailer tongue so the tongue will not hit the road surface if it falls loose. Rig the chains as tightly as possible while allowing just enough slack to permit tight turns.

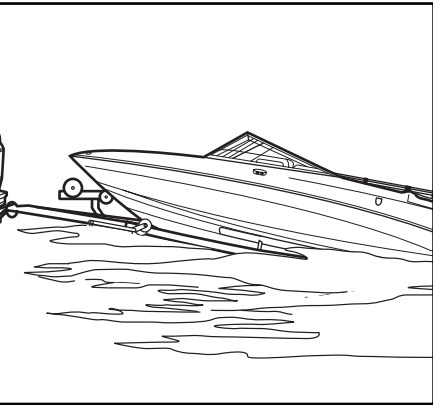
Be sure the tongue weight (vertical weight on the hitch point) is correct. Generally, 5% to 10% of the combined weight of the boat and trailer should be on the tongue. Too much or too little weight can cause difficult steering or trailer swaying.



TRAILERING CHECKLIST

- Check your state laws to be sure your trailer meets all regulations, such as proper licensing, brake, axle load, and safety chain requirements.
- Check trailer for any loose fasteners or damaged parts.
- Check tires for proper inflation.

NG



easy to other boaters, prepare the boat for launching before the ramp.

There may be particular differences as ramp angle, prevailing waves, and water currents. If you watch a couple of boaters launch their boats first to notice any differences. While every boater develops their own launch procedure, here is a suggested general procedure:

Review the Pre-Operation Checks on page 3-4 that can be performed on land, including operating the motor for at least 4 minutes.

Remove all trailering tie-down lines from the boat and attach your dock lines and fenders, if used.

Disconnect the trailer lights from the towing vehicle.

Back the trailer down the ramp as close to 90° to the shoreline as you can. If possible, have a second person stand aside as an observer. Stop when the wheels are at least partially submerged. Set the parking

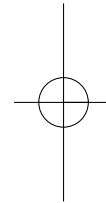
- 5) Remove the bow line from the bow eye.
- 6) Back the trailer farther into the water until just the tops of the fenders show, then reset the parking brake. Board the boat and start it. If possible, remain on the trailer until the engines are warm and are responding to throttle.
- 7) Back the boat out into the water, watching carefully for people, other boats, or obstacles.

LOADING

- 1) Disconnect the trailer lights from the towing vehicle.
- 2) Back the trailer down the ramp as close to 90° to the shoreline as you can. If possible, have a second person act as an observer while standing to the side of the boat. Stop when the tops of the trailer's fenders are about 3 inches above the waterline.
- 3) With the boat moving at the slowest idle speed, guide the boat onto the support rails. Use throttle only if necessary for steering ability.

⚠ WARNING

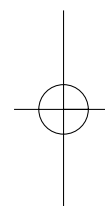
Using too much throttle can cause the boat to jump over the front of the trailer which can result in injury to the boat operator and bystanders. Use only enough throttle to maneuver the boat into the correct position.



Chapter 4

MAINTENANCE AND CARE

.....	4-1
System	4-1
ing System Flushing	4-1
cation	4-2
ery	4-3
ning	4-4
MENT AND MAINTENANCE	4-5
Kit	4-6
odic Inspection Chart	4-6
k Plug Cleaning and Adjustment	4-7
se Points	4-8
System Inspection	4-10
ne Oil	4-11
lter Element	4-12
ring Cable Inspection	4-13
ttle Cable Inspection	4-14
erse Gate Mechanism Inspection	4-14
Replacement	4-15
ery	4-15
ATIONS	4-18



STORAGE

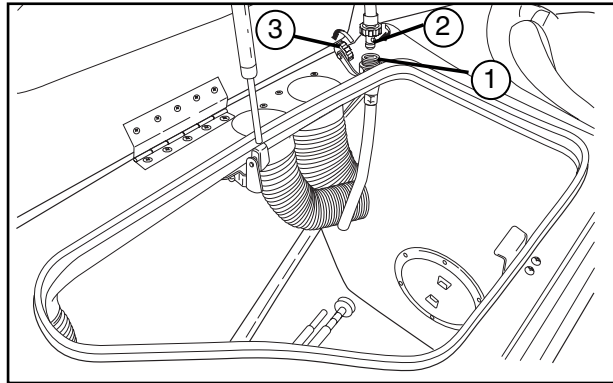
ur Sport Boat for prolonged time, such as winter storage, preventative maintenance to prevent deterioration. It is advisable the Sport Boat serviced by a Yamaha Sport Boat dealer. However, the following procedures can be performed by you with a minimum of tools.

FUEL SYSTEM

Fill the fuel tank with fresh fuel, add one ounce of Yamaha Fuel Stabilizer and Stabilizer or an equivalent per gallon of fuel. A full fuel tank is likely to allow condensation in the tank, reducing the amount of contaminated fuel. Running the engine with treated fuel during the cooling system flushing will also help clean the carburetors and fuel lines.

Use of Yamaha Fuel Stabilizer and Stabilizer eliminates the need to drain the fuel system. Consult your Yamaha dealer or other qualified mechanic if the fuel system is to be drained instead.

COOLING SYSTEM FLUSHING



- ① Flush Hose Connector
- ② Garden Hose Adapter
- ③ Cap

Cooling system flushing is essential to prevent the cooling system from clogging up with salt, sand, or dirt.

- 1) Open the cap for the engine you are going to flush. Press the flush kit garden hose adapter into the flush hose connector and turn until they are securely connected.
- 2) Start the engine, then immediately turn on the water supply fully.

CAUTION:

- Never turn on the water before starting the engine. The water could flow back through the muffler into the crankcase causing severe engine damage.
- Be sure to turn on the water immediately after starting the engine to prevent engine overheating.

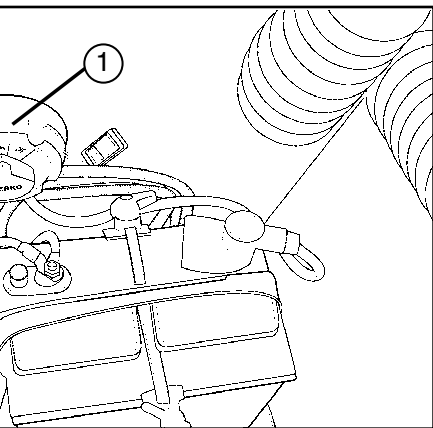
- 3) Run the engine at a fast idle for 10~15 minutes.

the areas of the Sport Boat
d in "Grease Points" in the
ent and Maintenance sec-

at will be out of use, the bat-
tch ① in the battery com-
t can be switched to the Off
to prevent accidental drain-
e battery.

ON:

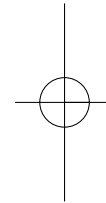
battery switch in the Off
the bilge pump will not
n if the bilge pump switch
n position. The bilge could
ter.



ne Sport Boat is not to be
r a month or more, remove
ery and store it in a cool,
ce. Clean the battery's cas-
terminals using a mixture of
soda and water (one tbsp. of
soda to one cup of water).
electric grease or petroleum
he battery terminals and to
sed connectors.

- 3) If the battery will be stored for a longer period, check the specific gravity of the fluid at least once a month and recharge the battery if it gets too low.

Specific gravity: 1.28 at 20°C (68°F)



ADJUSTMENT AND MAINTENANCE

Inspection, adjustment, and maintenance will keep your Sport Boat in the best and most efficient condition. Safety is an obligation of the owner. The most important boat inspection, adjustment and maintenance are explained on the following pages.

WARNING

Do not turn off the engines before you perform maintenance unless otherwise specified. Otherwise, accident or injury could result from unexpected motion, moving parts, or electrical shock.

If the owner is not familiar with the servicing, this work should be done by a Yamaha dealer or other qualified mechanic. Improperly serviced components could fail or stop operating suddenly, which could result in an accident.

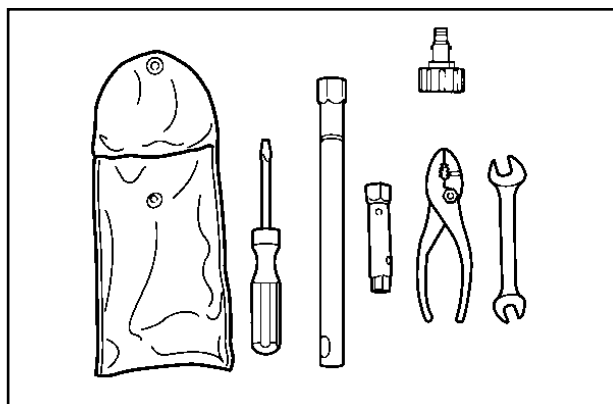
The Service Manual is available from your Yamaha Dealer for those who have the mechanical skills, and other equipment necessary to perform maintenance not covered in this Owner's Manual.

TOOL KIT

It is advisable always to carry the Owner's Manual and tool kit with you whenever you use the boat.

NOTE: To protect these materials from water damage, it would be a good idea to put them in a waterproof bag. If your Owner's Manual is damaged, order a replacement from a Yamaha Dealer.

The service information included in this manual is intended to provide you, the owner, with the necessary information for completing your own preventive maintenance and minor repairs. The tools provided in the owner's tool kit are sufficient for this purpose, except that a torque wrench is also necessary for tightening nuts and bolts properly.



WARNING

Do not attempt to modify this Sport Boat! Modifications to your boat may reduce safety and reliability, and may make the boat illegal for use.

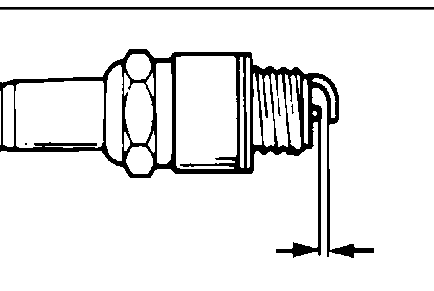
SPARK PLUG CLEANING AND ADJUSTMENT

A spark plug is an important engine component and is easy to inspect. The condition of the spark plug can indicate a lot about the condition of the engine. For example, if the center electrode is very white, this could indicate an intake air leak or carburetor problem in that cylinder.

Do not attempt to diagnose any problem yourself. Instead, take the Sport Boat to a Yamaha Sport Boat dealer. Have the spark plug removed and inspected periodically remove and replace the spark plug because heat and deposits will cause the spark plug to break down and erode. If electrode erosion becomes excessive, and carbon and other deposits are present, you should replace the spark plug with another of the correct type.

Inspect spark plug:

When installing the spark plug, measure the electrode gap with a wire gauge; adjust the gap to the correct specification if necessary.



Spark plug gap: 0.7~0.8mm
(0.031 in)

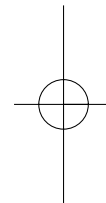
When fitting the plug, always clean the gasket surface and use a new gasket. Wipe off any dirt from the threads and screw in the spark plug to the correct torque.

Spark plug torque:

13 Nm (1.3 m·kg, 9.4 ft·lb)

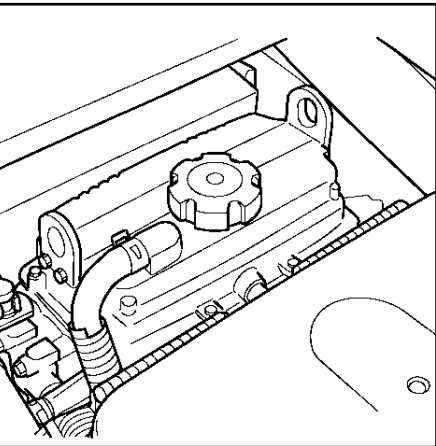
NOTE: Before installing the spark plug cap, be sure to wipe off any water on the spark plug or inside the cap. Push the spark plug cap down until it clicks.

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



⚠ 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.



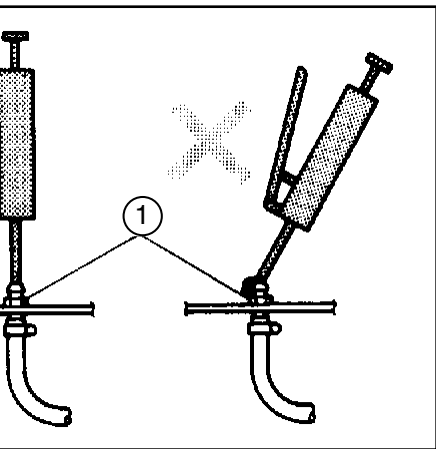
Bearing Housing

① Bearing housing grease nipple

Grease the bearing housing through the grease nipple.

Recommended water-resistant grease:

Yamaha Marine Grease, or
Yamaha Grease A



The first service should be done after 10 hours or 1 month by your Yamaha dealer.

Fill the bearing housing with water resistant grease through the grease nipple.

Grease capacity: 33.0~35.0 cc
(1.11~1.18 oz)

After first service: Every 100 hours or 6 months (you may do this yourself)

Grease capacity: 6.0~8.0 cc
(0.20~0.27 oz)

CAUTION:

Fill the grease slowly and carefully, because it can damage the hose and the joints.

WASH

Fuel tank needs to be cleaned or replaced if water is found in the fuel system. Refer the Sport Boat to your Yamaha dealer for service.

OIL**WARNING**

Engine is extremely hot after the engine is turned off. Coming into contact with or getting any engine oil on your clothes could result in burns.

NOTE:

Check the engine has enough oil. Do not overfill. If there is too little oil, the engine can be damaged. If there is too much oil, the oil filter can become saturated with oil, permanently damaging the oil filter and reducing engine performance.

Change the engine oil after the first 10 hours of operation and every 100 hours thereafter at the start of a new season, otherwise the engine will wear quickly.

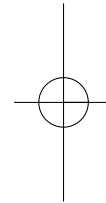
The oil filter should be replaced every two years or every 200 hours of operation. Have a Yamaha dealer replace the oil filter when necessary.

It is recommended to have a Yamaha dealer change the engine oil. However, if you choose to change the oil on your own and you have the special equipment necessary to do so, refer to the service manual for this Sport Boat.

NOTE: Dispose of used oil according to local regulations.

CAUTION:

If oil is leaking or the oil-pressure warning indicator comes on when the engine is running, immediately turn the engine off and have a Yamaha dealer check the Sport Boat. Continuing to operate under such conditions could cause severe engine damage.



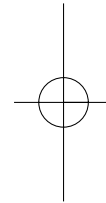
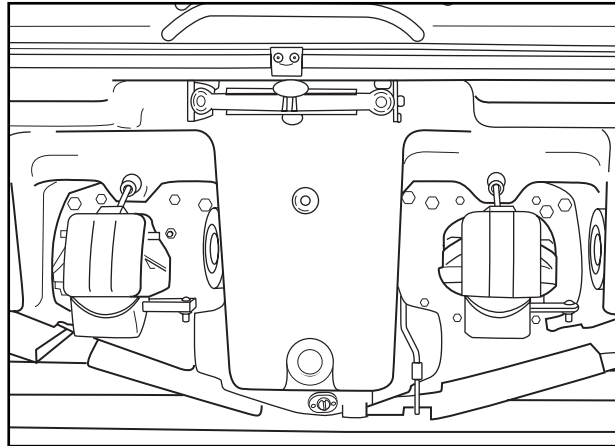
STEERING CABLE INSPECTION

check:

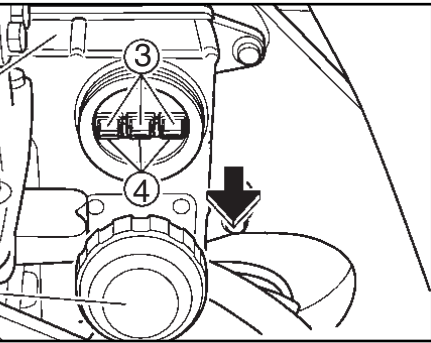
for smooth operation of the steering cable and steering nozzles.

for proper steering adjustment, the nozzles should both point straight back when the steering is centered.

if the steering is stiff or misadjusted, ask a dealer to service it.



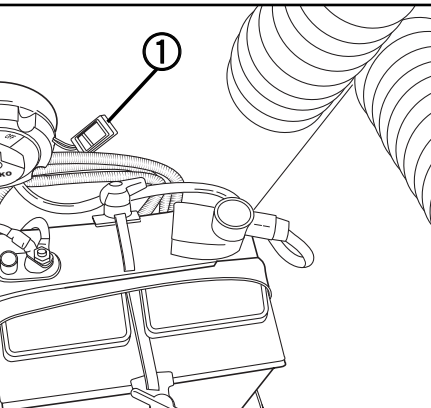
PLACEMENT



in the ignition coil holder. To
the fuse, unscrew the cap
the two red leads out with
holder. Open the fuse hold-
replace the fuse.

coil holder ③ Fuse (10A)
④ Fuse holder

Fuse



10A)

switch

on the red lead wire coming
the battery switch. Open the
x and replace the fuse.

⚠ WARNING

Do not use fuses of higher amperage than those recommended. Substitution of a fuse of improper rating can cause extensive electrical system damage and possible fire.

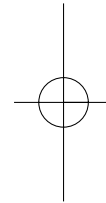
BATTERY

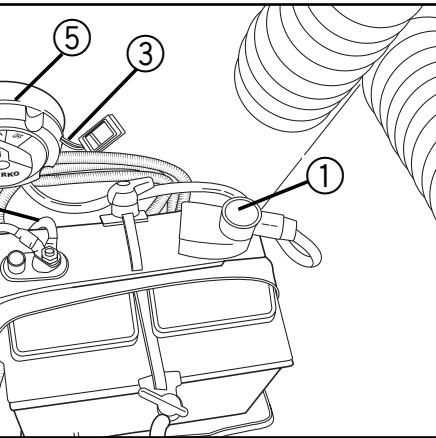
NOTE: These general guidelines apply to many commonly used battery types (but not, for example, to maintenance-free batteries). Consult the battery manufacturer's instructions before performing battery maintenance.

Check the level of the battery fluid and see if the terminals are tight. Add distilled water if the fluid level is low.

CAUTION:

- Be careful not to place the battery on its side.
- Remove the battery from the boat before adding distilled water or recharging.





(+) Battery cable (Red)
 (-) Battery cable (Black)
 (+) Lead (Red/Black)
 (-) Lead (Black)
 Switch

Battery Switch

This model includes a battery disconnect switch. Turn this switch to the Off position when you want to be sure no battery power is available, such as during storage to prevent accidental discharge of the battery or during service work.

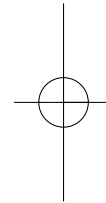
CAUTION:

With the battery switch in the Off position, the bilge pump will not work, even if the bilge pump switch is in the On position. The bilge could fill with water.

N:

REMOVAL: Disconnect leads before removing the disconnect the negative (-)

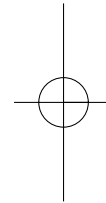
INSTALLATION: Connect (+) lead and accessory red to the positive (+) terminal of battery. Connect the black (-) lead and the black (-) accessory lead to the negative (-) terminal of battery.



Chapter 5

TROUBLESHOOTING & SPECIAL PROCEDURES

TROUBLESHOOTING	5-1
Troubleshooting Chart	5-1
SPECIAL PROCEDURES	5-3
Starting the Sport Boat	5-3
Running on One Engine	5-3
Cold Starting	5-4
Fuel Pump Clean-Out Procedure	5-5



TROUBLESHOOTING

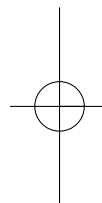
If something happens on your Sport Boat, use this section to check for possible cause. If you find the cause or if the procedure for replacement or repair is not described in this manual, ask your Yamaha Sport Boat dealer or qualified mechanic for the proper service.

The Troubleshooting Chart contains "TROUBLE," "POSSIBLE CAUSE," "REMEDY," "REFER" and "PAGE."

The Troubleshooting Chart contains the possible cause and remedy, and also the referred page for the maintenance steps to follow.

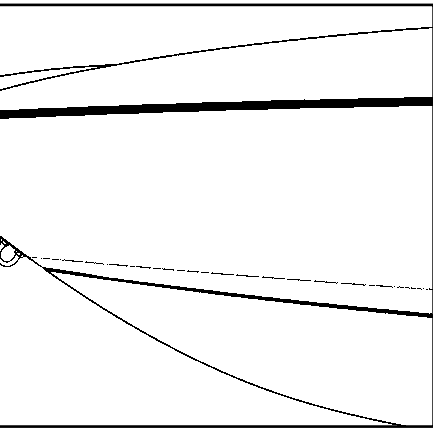
TROUBLESHOOTING CHART

	POSSIBLE CAUSE		REMEDY	Page
Motor won't start	• Fuse	Burned out	• Replace the fuse and check wiring	4-15
	• Battery	Run down	• Recharge	4-16
		Poor terminal connections	• Tighten as required	4-16
		Battery switch off	• Turn on switch	4-17
	• Jet pump cleanout hatch	Not latched	• Latch securely	5-5
	• Starter component	Faulty	• Have serviced at Yamaha dealer	
	• Shift lever	Not in Neutral	• Shift to Neutral	2-7
Engine problems	• Engine shut-off switch	Clip on cord is not in place	• Install clip in engine shut-off switch	2-6
	• Fuel	Empty	• Refill as soon as possible*	3-3
		Stale or contaminated	• Have serviced at Yamaha dealer	
	• Fuel tank	Water or dust collected	• Have service at Yamaha dealer	
		Built-up pressure	• Open the fuel tank filler cap and release pressure	3-14
	• Spark plug	Fouled or defective	• Clean or replace	4-7
	• Spark plug cap	Not fitted or loose	• Fit properly	4-7
	• Crankcase	Filled with fuel	• Have serviced at Yamaha Dealer	
		Filled with water	• Crank engine with spark plug out until clean	
	• Fuel filter	Clogged or water collected	• Have serviced at Yamaha Dealer	



EMERGENCY PROCEDURES

THE SPORT BOAT



ve

Boat should be towed only if
inoperative.

g rope should be long
that the Sport Boat will not
the towing boat when slow-
A good rule of thumb is a tow
is three times the combined
the towing boat and the Sport

port Boat using the bow eye
the boat at a “no wake”

N:

w the Sport Boat at speed
gh to leave a wake. Severe
damage could result
water can flood the non-
engines through the cool-
intake.

⚠ WARNING

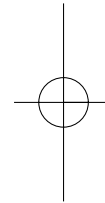
The operator of the towing boat must keep speed to a minimum and avoid traffic or obstacles which could be a hazard to the driver on the Sport Boat.

RUNNING ON ONE ENGINE

If one engine becomes inoperative, the properly running engine can be used to return to shore. Operate at a “no wake” speed to prevent water from flooding the non-operating engine through the cooling water intake.

CAUTION:

Do not operate the Sport Boat above a “no wake” speed with just one engine. Severe engine damage could result because water can flood the non-operating engines through the cooling water intake.



PUMP CLEAN-OUT PROCEDURE

WARNING

**INJURY OR DEATH MAY
OCCUR IF YOU IGNORE ANY OF
THE FOLLOWING:**

1) Remove both ignition keys, remove lanyard, and wait for engine movement to stop before removing access port caps.

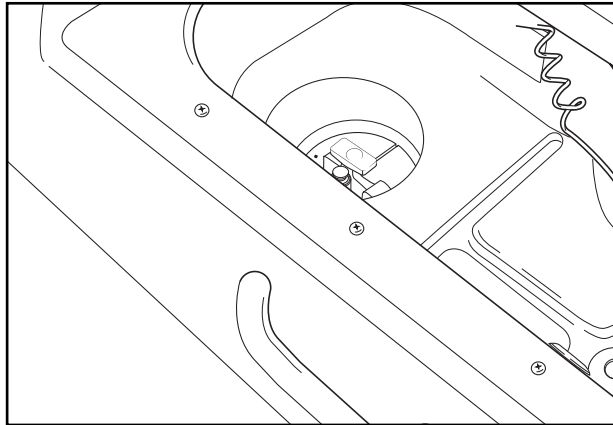
2) Do not override interlocks to run the engine with hatch open.

3) The impeller has sharp edges. Be careful when reaching into jet area.

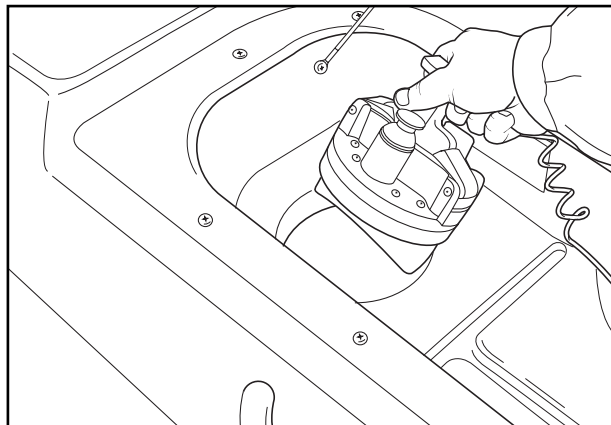
4) If debris get caught in the impeller, cavitation can occur, the engine speed rises, for a short time, and then will decrease. If this condition is allowed to continue, pump failure can occur and the engines can overheat and seize. If there is any debris in the jet intake or impeller is clogged with weeds or debris, follow the pump clean-out procedure.

5) Remove ignition keys, lanyard, and wait for all engine movement to stop.

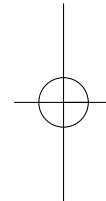
6) Stand on the rear platform.



- 3) Check that the retaining cord is securely attached to the cap and retaining strap. Press the release button and lift the cap up out of the port. Set the cap where it cannot be accidentally knocked overboard.



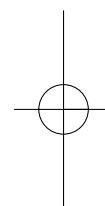
- 4) Remove any weeds or debris from the drive shaft, impeller, pump housing, and steering nozzle. If you cannot remove the debris, consult your Yamaha Sport Boat Dealer.
- 5) To reinstall the access port cap, first clean off any sand or other foreign matter from the cap or port surfaces. Insert the cap so that its projection faces the bow and lines up with the slot in the access port wall.



Chapter 6

CONSUMER INFORMATION & INDEX

WARRANTY	6-1
EXTENDED SERVICE (Y.E.S)	6-4
TERMS	6-5
LOAT PLAN	6-6
.....	6-7



MOTOR CORPORATION, U.S.A. BOAT LIMITED WARRANTY

Motor Corporation, U.S.A. hereby warrants that new Yamaha Sport Boats will be free from defects in materials or workmanship for the period of time stated herein, subject to certain conditions.

WARRANTY: The hull and deck on any new Yamaha Sport Boat purchased for pleasure from an authorized Yamaha Sport Boat dealer in the United States will be warranted against structural defects for a period of five (5) years in pleasure use, or for one (1) year in commercial applications. All other Yamaha Sport Boat components will be warranted against material or workmanship, subject to exclusions noted herein, for a period of one (1) year from purchase in pleasure use, or ninety (90) days from the date of purchase in commercial applications.

Replacement parts used in warranty repairs will be warranted for the balance of the applicable warranty period.

The warranty described here applies to Sport Boats purchased and registered for use in the United States only. For warranty provisions outside the United States, contact that particular country's Yamaha distributor.

REPAIRS UNDER WARRANTY: During the period of warranty, any authorized Yamaha Sport Boat dealer will, free of charge, repair or replace, at Yamaha's option, any parts found defective by Yamaha due to faulty workmanship or material from the factory. All parts replaced under warranty will become the property of Yamaha Motor Corporation, U.S.A.

OWNER'S RESPONSIBILITY: Under the terms of this warranty, the customer will be responsible for ensuring that the Sport Boat is properly operated, maintained, and stored as specified in the Owner's Manual.

The owner of the Sport Boat shall give notice to an authorized Yamaha Sport Boat dealer of any defects within ten (10) days of discovery and make the boat available at that time for inspection and repairs at the dealer's place of business.

EXCLUSIONS FROM WARRANTY: This warranty will not cover the repair of damage that is a result of abuse or neglect of the product. Examples of abuse and neglect are not limited to:

- Commercial or competition use, modification of original parts, abnormal strain.

- Improper maintenance and off season storage as described in the Owner's Manual, installation of parts or accessories that are not equivalent in design and quality to genuine Yamaha parts.

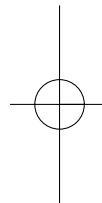
- Use of lubricants, oils, and fuel/oil mixtures that are not suitable for Sport Boat motor use.

- Damage as a result of accidents, collisions, contact with foreign materials, or submersion.

- Infestation of marine organisms on motor or hull surfaces.

- Normal wear and deterioration.

- Fatigue or stress cracks.



Warranty be void or cancelled if I do not operate or maintain my new Sport Boat exactly as specified in the Owner's Manual?

Warranty on a new Sport Boat cannot be "voided" or "cancelled." However, if a part failure is caused by operation or maintenance other than as shown in the Owner's Manual, that failure may not be covered under warranty.

Responsibility does my dealer have under this warranty?

Yamaha Sport Boat dealer is expected to:

Completely set up each new Sport Boat before sale.

Train the operator in the operation, maintenance, and warranty requirements to your satisfaction at the time of sale, and upon your request at any later date. In addition, each Yamaha Sport Boat dealer is held responsible for his setup, service and warranty repair work.

Is warranty transferable to second owners?

The remainder of the existing warranty can be transferred upon request. The unit has to be inspected and re-registered by an authorized Yamaha Sport Boat dealer for the policy to be effective.

SERVICE

Yamaha Sport Boat requires warranty service, you must take it to any authorized Yamaha Sport Boat dealer within the United States. Be sure to bring your warranty registration card or other valid proof of original date of purchase. If a question or problem arises regarding warranty, first contact your dealer or the dealership. Since all warranty matters are handled at the dealer level, this is the best position to help you. If you are still not satisfied and require additional assistance, please write:

YAMAHA MOTOR CORPORATION, U.S.A.

CUSTOMER RELATIONS DEPARTMENT

P.O. Box 6555

Irving, California 90630

POSTAL ADDRESS

The Federal Government requires each manufacturer to maintain a complete, up-to-date list of all products against the possibility of a safety-related defect and recall. This list is compiled from purchase registrations sent to Yamaha Motor Corporation, U.S.A. by the selling dealer within 30 days of your purchase.

When you move after you have purchased your new Sport Boat, please advise us of your new address by sending a postcard listing your Yamaha model name, engine number, dealer number [if applicable] as it is shown on your warranty card, your name and new mailing address.

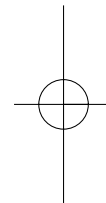
YAMAHA MOTOR CORPORATION, U.S.A.

WARRANTY DEPARTMENT

P.O. Box 6555

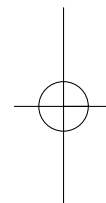
Irving, California 90630

Be sure that Yamaha Motor Corporation, U.S.A. has an up-to-date registration record in accordance with federal law.



BOATING TERMS

DEFINITION	
	The front part of the boat.
	The “floor” or upper structure which covers the hull.
y	The vessel which must yield the right-of-way when two boats meet.
	The meeting junction of the deck and hull; the upper edge around the boat. Pronounced “gun’l”
	An opening in the deck which provides access below.
	The steering console.
	The basic part of the boat; the under side.
	The cord or tether that connects the operator to the engine stop switch so the engines will stop if the operator accidentally leaves the helm.
	A Personal Flotation Device, also known as a “life jacket.”
	Traveling at a speed fast enough so the boat has leveled out and is skimming on top of the water. There is a wake.
	The left side of the boat.
a	The vessel with the right-of-way when two boats meet.
d	The right side of the boat.
	The back part of the boat.
ing	Traveling at a medium speed. The bow of the boat is out of the water, but you are still traveling through the water. There is a wake.
	The vertical part of the stern.
	Traveling at idle speed, using little or no throttle. The boat is down in the water and it is not leaving a wake.
	The visible track of disturbed water that the boat leaves behind as it moves in the water.



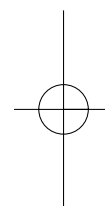
Supporting	1-20
Caps	3-6, 5-5
and Maintenance	4-5
	1-8
	4-12
	1-9
	3-23
	1-11
operation	1-10
	1-10
	3-7, 4-3, 4-15
ch	2-7, 4-3, 4-17
	3-22
sing	4-9
	2-14, 3-8
	3-11, 4-4
	2-14, 3-9
m a dock or	
tty	3-20
m the water	3-19
ion and training	1-19
ty information	1-19
ns	6-5
	2-2, 3-23, 3-28, 5-3
having	3-21
cedure	3-16
other markers	1-18
it	1-8
oxide	1-12, 3-13
els	1-4, 1-5, 1-6, 1-7
ddress (warranty)	6-3

Checks:

Access port caps	3-6, 5-5
Battery condition	3-7, 4-3, 4-15
Bilge	3-8
Cooling water pilot outlets	3-10
Engine compartment	3-9
Fire extinguisher	3-6
Fuel leak	3-8, 3-9, 4-4, 4-10
Fuel/oil level	3-7
Jet intake	3-7, 5-5
Pre-operation checks	3-4
Post-operation checks	3-25
Steering	2-5, 3-5, 4-13
Throttle	3-5, 4-14
Checklists	1-9, 3-4, 4-6, 5-1
Circuit breakers and fuses	2-14, 4-15
Cleaning	4-4
Cleaning jet pump, intake, and impeller	5-5
Cleats	2-3
Connecting battery terminals	4-16
Connecting jumper cables	5-4
Control levers	2-7
Cooling system flushing	4-1
Cooling water pilot outlets	2-13, 3-10
Cord, Engine Shut-off	1-12, 2-8, 3-10, 3-14, 5-1
Crossing (Rules of the Road)	1-16
Cruising limitations	1-10
Customer's responsibility (warranty)	6-1
Customer Service (warranty)	6-3

D

Deck drain	3-7
Deep alarm	2-12
Depth sounder	2-10



ter motor
 eriod 3-15
 n who may
 port Boat 1-8
 1-8
 abels 1-4
 ain components 2-1
 3-2, 3-3, 4-2, 4-1
 es 2-6
 er vessels
 (the Road) 1-15
 s 1-11, 4-5, 6-1
 ion 1-13
 pairs under warranty 6-1
 4-6, 4-11
 acement 4-11
 2-1, 3-2, 3-3, 4-11
 3-2, 4-11
 3-1, 3-13
 controls and
 ctions 2-5
 requirements 1-11
 arning system 2-11
 another vessel
 (the Road) 1-17
 1-11, 3-19
 rranty 6-1
 ection chart 4-6
 tation
 1-9, 1-11, 1-14, 3-17
 on checks 3-25
 n checklist 3-4

Pre-operation checks 3-5
 Primary Identification number 1-1
 Protective apparel 1-11, 1-14

R

Reading owner's manual 1-8
 Recharging battery 4-16
 Replenishing the battery fluid 4-16
 Reverse gate 2-9, 3-5, 4-14
 Reverse operation 1-13, 2-9
 Rough water operation 1-10
 Rules of the Road 1-15
 Rules when encountering
 other vessels 1-16

S

Safety information 1-8
 Seat grips 1-11, 2-2
 Seating positions 1-11
 Self-bailing deck 3-7
 Shallow alarm 2-11
 Shallow water
 operation 1-10, 2-11, 3-13, 3-22
 Shift 2-7, 3-5
 Spark plug 2-1, 4-7, 4-18
 Specific parts excluded
 from warranty 6-1
 Specifications 4-18
 Speedometer 2-9
 Starting the engines 3-13
 Steering 2-5, 3-5, 3-18
 Steering and sailing rules and
 sound signals 1-15
 Steering cable ball joints and
 inner wire 4-8
 Steering inspection 3-5, 4-13
 Steering pivot points, greasing 4-8

