OWNER'S MANUAL

sea-doo '68

Bombardier*

*T.M. BOMBARDIER LTD.

REGISTRATION CERTIFICATE

THIS CERTIFICATE MUST BE COMPLETED BY THE DEALER AT THE TIME OF SALE

MRS. ☐
MISS ☐
MR. ☐

PLEASE PRINT CLEARLY IN BLOCK LETTERS

STREET ADDR.

TOWN, PROV., STATE

DATE OF SALE

MONTH DAY YEAR

SEA-DOO SERIAL NUMBER

ENGINE SERIAL NUMBER

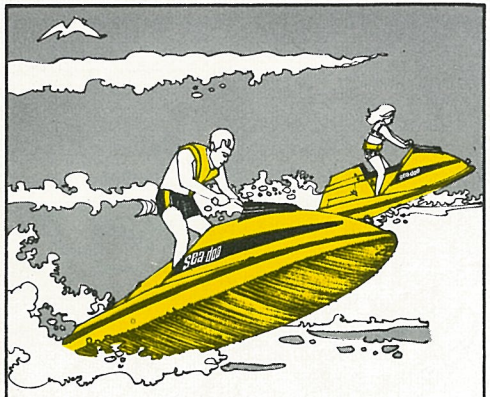
OWNER'S INITIALS

DEALER'S NAME

ADDRESS

DEALER'S SIGNATURE

OWNER'S SIGNATURE



Your Sea-Doo

Your 1968 Sea-Doo is the direct result of years of research and testing, by the world's largest manufacturer of snow and soft soil vehicles. Bombardier Limited, a well-known dynamic company, now applies its engineering knowledge to a completely new concept of summer water fun.

The Sea-Doo is a trouble-free machine combining lightness, manoeuverability and high performance. But above all, the Sea-Doo is *safe*...

These qualities are characteristic of the following Sea-Doo components.

HULL: The fiberglass hull is monocoque. Its shape permits a fast planing action when the engine is accelerated. Perfect steering action can be obtained at all speeds with no danger to capsize.

ENGINE: A Rotax 320 c.c. powers the Sea-Doo. This engine is light, yet powerful. Its durability and power of acceleration have been well proven in the world's most popular Snowmobile, the "Ski-Doo".

TURBINE: The "5J5" Berkeley turbine which has been specially designed and manufactured by "Berkeley Pump Company", is the propulsion heart of the Sea-Doo. Light weight, simplicity and efficiency are the main characteristics of this revolutionary "5J5" turbine.

You can expect hours of summer water fun and trouble-free operation of your Sea-Doo. Bombardier Limited and our dealers appreciate the confidence shown in our product. The whole team will do its utmost to be worthy of this confidence.

This manual contains the required information for proper maintenance, care and operation of the Sea-Doo. A thorough knowledge of these simple instructions will help you to get maximum performance of your playful Sea-Doo, this summer and for many seasons to come.

Before you use the Sea-Doo, or pass it on to your friends for a day of fun, make sure that you are familiar with the contents of this booklet. Inform yourself and abide by all the local laws pertaining to the use of pleasure crafts.

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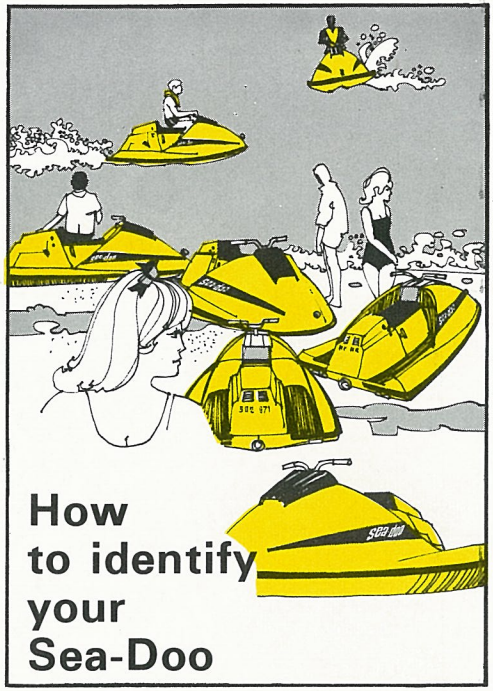


How to identify your Sea-Doo

It may sometimes become necessary to locate the serial numbers of the body and engine. You will find their location from fig. 1.

The knowledge of these serial numbers can be useful to retrace your Sea-Doo, or in the application of the warranty policy.

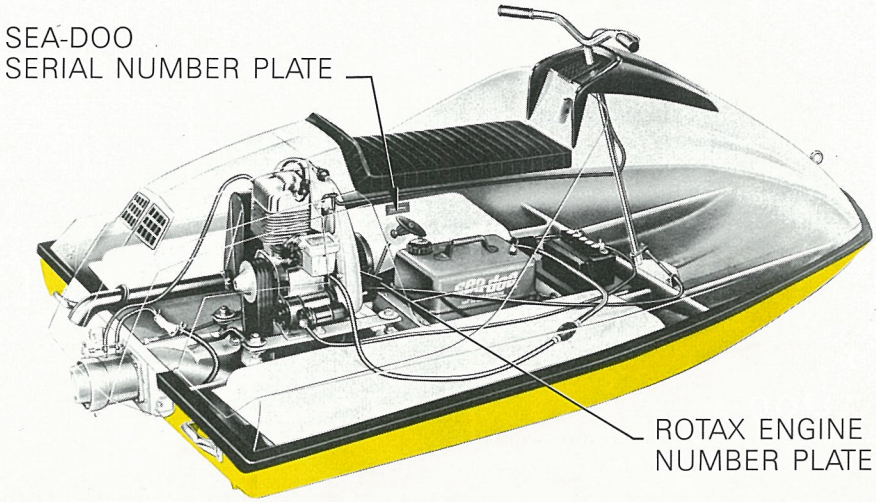


Figure 1

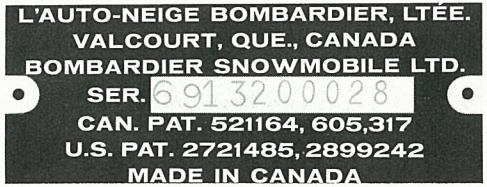


Figure 2

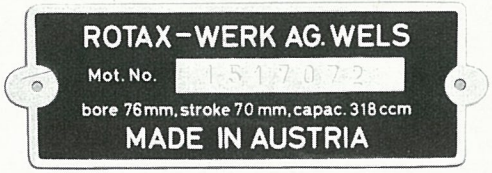


Figure 3

SEA-DOO #:

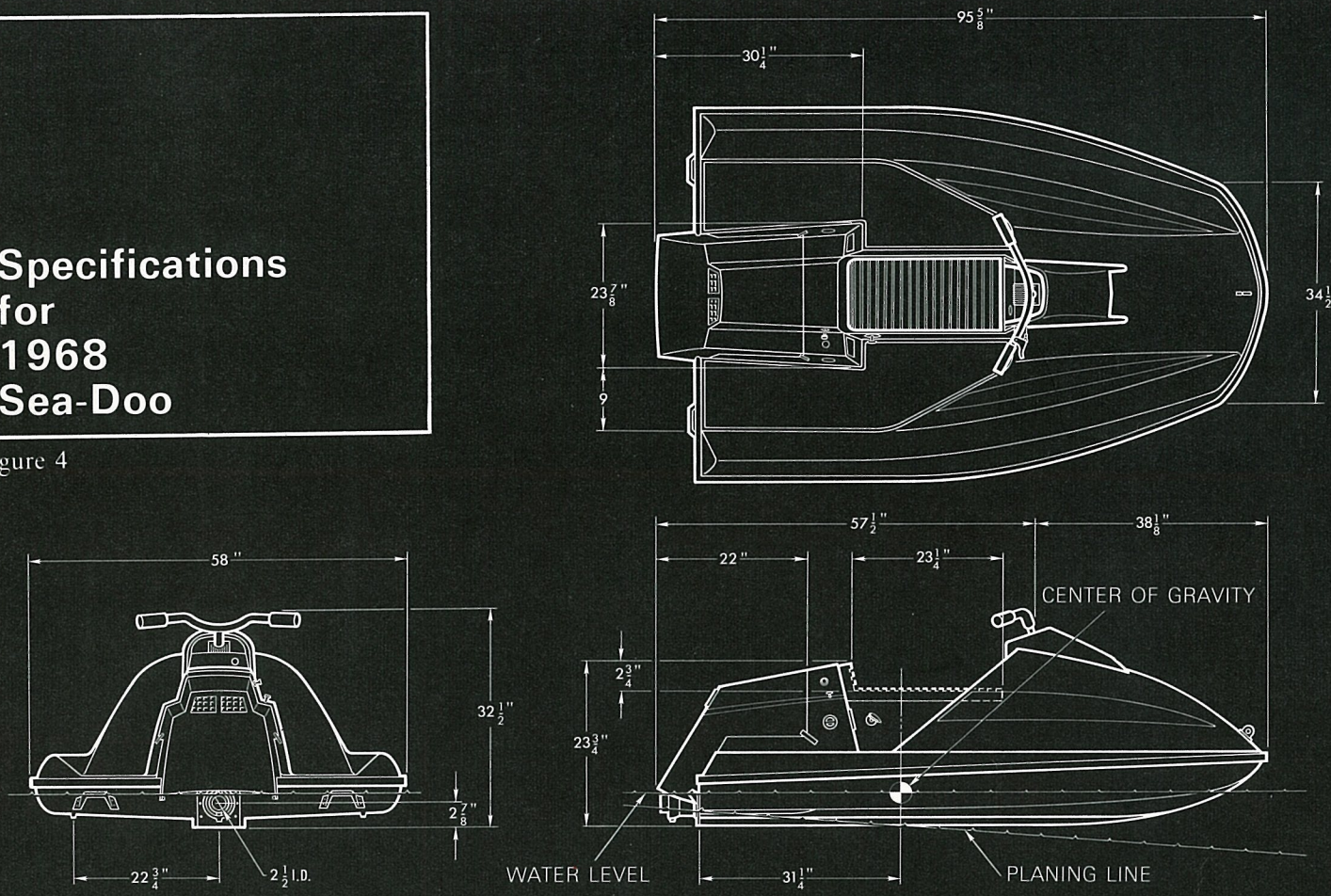
The plate identifying the Sea-Doo serial number is located on the right side of the Sea-Doo, at the bottom of the seat above the starter rope handle.

ENGINE #:

Lift the Sea-Doo seat and you will find the Rotax engine name plate above the starter rewind unit, directly riveted on the top of the engine fan cowl.

Specifications for 1968 Sea-Doo

Figure 4



Specifications for 1968 Sea-Doo

DIMENSIONS
- Overall length: **95⅝″**
- Overall width: **58″**
- Overall height: **32½″**

WEIGHT
- Dry weight: **289 pounds**
- Maximum payload: **250 pounds**
- Maximum weight bearable by flotation chambers (2) when submerged: **300 pounds**
- Engine weight: **50 pounds**
- Turbine weight: **13½ pounds**

LUBRICATION
- Engine: **Mixture of gasoline and oil**
- Turbine: **"Outboard" lower end gear oil**

PERFORMANCE
- Maximum Speed: **25/30 M.P.H.**
- Fuel Consumption: **1.5 gals./h.**

ENGINE
- Type: **Aluminum 2 cycle air cooled**
- Cylinder: **One**
- Displacement: **318 c.c. or 19.385 c.i.**
- Bore x Stroke: **76 mm or 2.992″ x 70 mm or 2.734″**
- Compression Ratio: **8.8:1**
- Horse Power: **18 HP @ 6,000 R.P.M.**

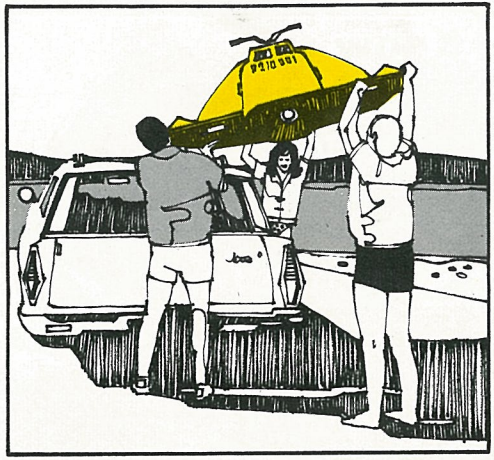
SPARK PLUG
- Type: **Bosch M240T-1**
- Gap: **0.020″**

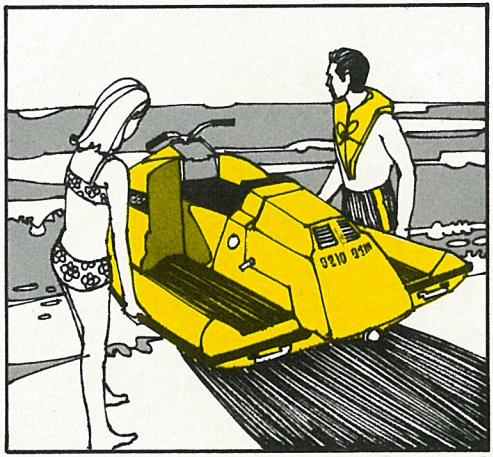
FUEL SYSTEM
- Fuel Mixture Ratio: **16 gas:1 Sea-Doo/Ski-Doo oil**
- Fuel tank capacity: **3 gals.**
- Carburetor: **Tillotson**
- Air filter: **Flame arrester type**

ELECTRICAL EQUIPMENT
- Battery: **12 volts**
- Ignition: **Flywheel magneto**
- Charging system: **Flywheel generator (50 watts)**
- Starter: **Electrical and manual**

TURBINE
- Engine sheave diameter: **4″**
- Turbine sheave diameter: **3¼″**

NOTE: *With engine at 6,000 R.P.M., turbine revolves at 7,400 R.P.M.*





Know the Sea-Doo external features

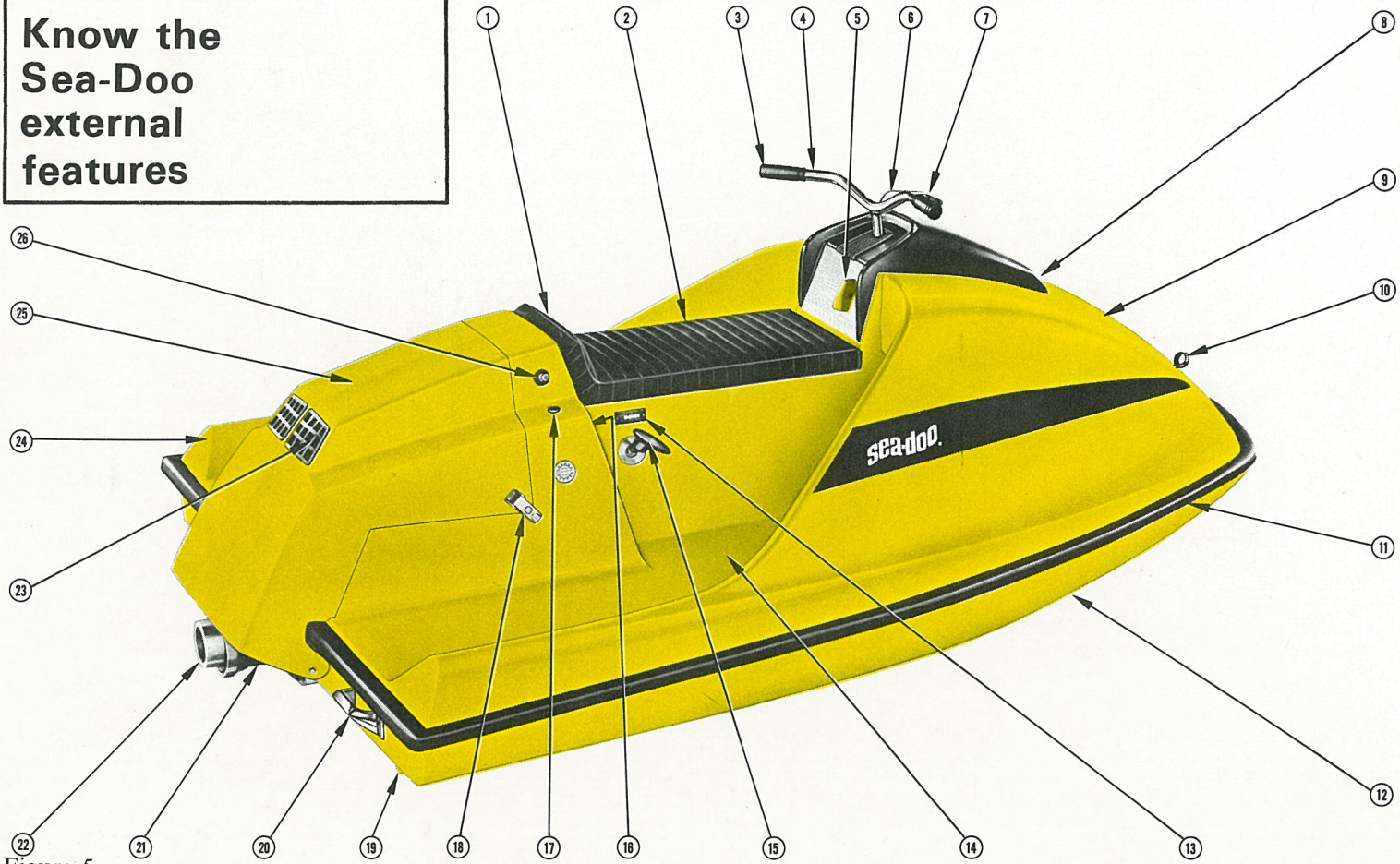


Figure 5

List of features

1 – Well padded back rest
2 – Roomy deep-ribbed seat
3 – Non-slip handle bar grip
4 – Sturdy handle bar controls
5 – Dash Panel
6 – Throttle cable and housing
7 – Safety hand throttle
8 – Main front air scoop
9 – Fiberglass body - upper half
10 – Chrome bowring
11 – Rubber bumper
12 – Strong fiberglass hull
13 – Sea-Doo name plate
14 – Non-slip deck
15 – Manual starter handle
16 – Secondary side air scoop
17 – Choke
18 – Engine cover safety lock-clip
19 – Stabilizing fins
20 – Transom handles (hull handles)
21 – Turbine
22 – Turbine's steering nozzle
23 – Heat exhaust vent
24 – Airflow tail fin
25 – Tip-up engine (access) cover
26 – Decompressor
27 – Ignition key
28 – Tip-up seat for easy access to gas tank

Know the Sea-Doo internal features

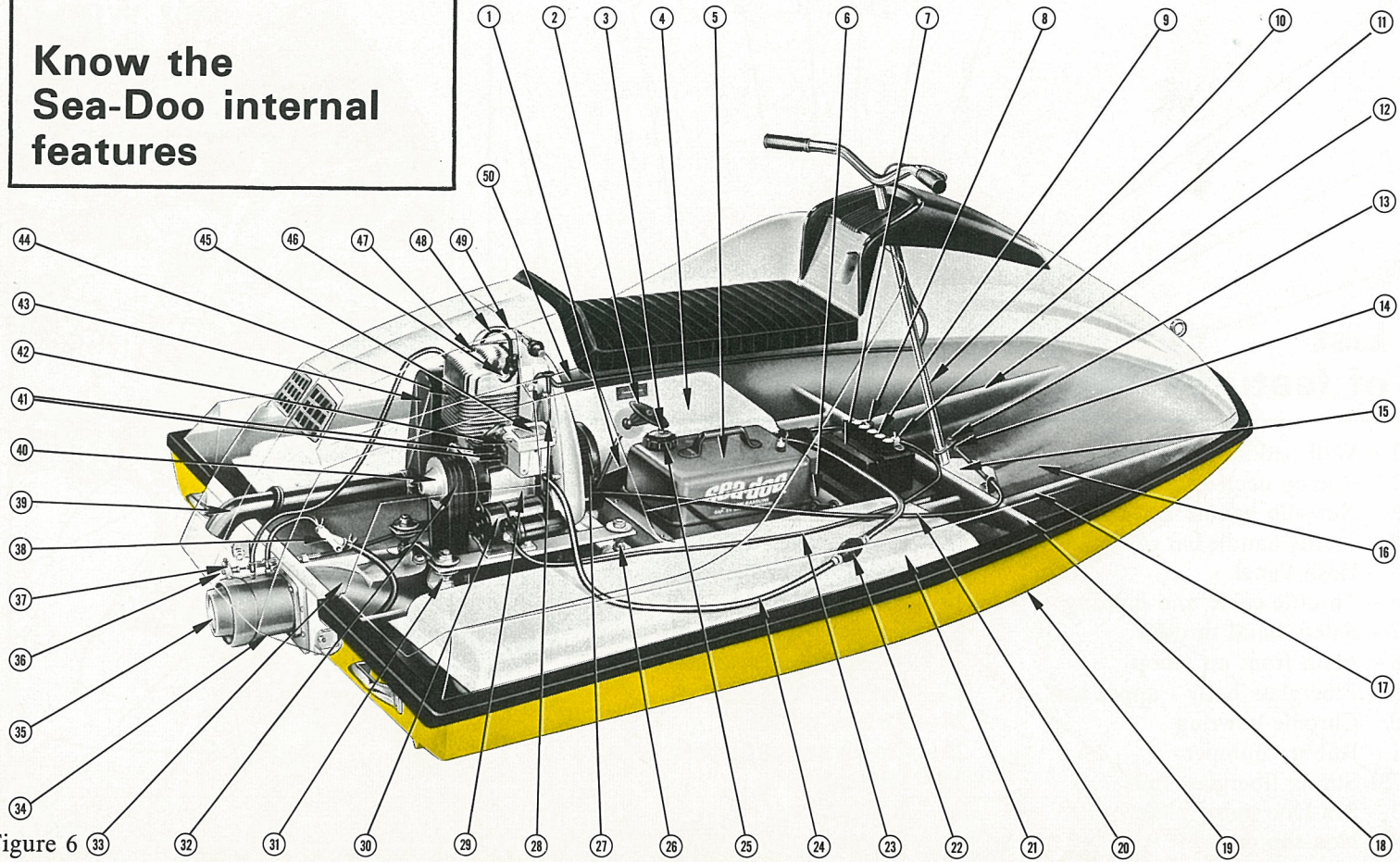
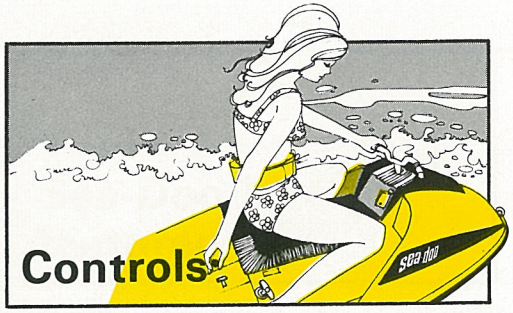


Figure 6

List of features

1 – Battery ground wire
2 – Manual starter handle and rope
3 – Fuel tank vent hole
4 – Port side flotation chamber
5 – Fuel tank
6 – Battery tool compartment
7 – Battery
8 – Battery terminal - negative
9 – Battery caps
10 – Steering column
11 – Battery terminal - positive
12 – Longitudinal transom
13 – Steering arm
14 – Steering cable adjuster
15 – Steering lower bracket
16 – Round bilge
17 – Longitudinal transom
18 – First cross transom
19 – Hull
20 – Steering cable housing
21 – Starboard flotation chamber
22 – Bulb type primer pump
23 – Battery starter cable
24 – Fuel line
25 – Fuel level gauge
26 – Engine support bracket bolt (ass'y)
27 – Manual start rewind unit
28 – Choke rod
29 – Crankcase (engine)
30 – Starter
31 – Engine support bracket
32 – V-belt
33 – Turbine body
34 – Turbine stator body
35 – Steering nozzle
36 – Steering nozzle cable adjuster
37 – Steering nozzle arm
38 – Siphon
39 – Exhaust pipe
40 – Engine pulley
41 – Carburetor adjustment screws
42 – Carburetor
43 – Muffler
44 – Cylinder
45 – Flame arrester unit
46 – Spark plug
47 – Cylinder head
48 – Spark plug wire
49 – Decompressor cable
50 – Throttle cable and housing



STEERING: The Sea-Doo is steered by moving (rotating) the handle bars to the left or to the right. Turning the handle bars clockwise fig. 9 will move the Sea-Doo to the right and counterclockwise fig. 8 to the left.

To improve the steering efficiency, weight shifting, as on a Ski-Doo or Motorcycle, is a definite asset. Refer to page 17 to get more information on this subject.

THROTTLE OR ACCELERATOR: The accelerator (hand / thumb operated) is positioned on the right hand steering arm. See fig. 9. Pressing the throttle lever increases engine speed and power is transmitted to the turbine. When the lever is released, the engine returns to idle speed by itself.

SWITCH: The ignition switch is located on the right hand side of the control panel. See fig. 10. The Sea-Doo has a key-operated ignition switch, with OFF, ON, LIGHT* and START positions.

CHOKE: The choke knob is situated behind the seat. See fig. 11, item 1. The choke is used to permit easier starts.

DECOMPRESSOR: You will find the decompressor (see fig. 11, item 2) *red button* right above the choke control knob. The purpose of the decompressor valve is to release the compression inside the ingine for an easier manual start.

STARTER ROPE HANDLE: The starter handle, see fig. 11, item 3 located in the same area as the choke and decompressor, can be usefull in an emergency (especially in case of a dead battery).

ENGINE COVER LATCHES: On the engine and turbine cover, there are two latches which lock the cover to the Sea-Doo body. See page 6, item 4.

FUEL LEVEL GAUGE: The fuel level gauge is built-in with the fuel tank cap. The whole mechanism is also a component of the fuel tank cover. See page 13, fig. 16.

PRIMARY FUEL PUMP: After a long period of inactivity of the Sea-Doo or if the engine ran out of gas, it becomes necessary to fill up the carburetor with fuel. To do so, a bulb type pump is inserted into the fuel line. Squeeze the bulb a few times to prime the carburetor. See page 8, fig. 23.

CARBURETOR MIXTURE AND IDLE SPEED SCREW:

a) IDLE SPEED ADJUSTER: The idle speed of the engine is controlled by an adjustment screw located on the carburetor body. Turning the screw clockwise or counterclockwise sets the speed. See page 22, fig. 35.

b) IDLE SPEED MIXT. ADJUSTER: To control the amount of fuel going into the engine at idle speed, an adjuster screw is located on the carburetor body. Turning screw right or left controls fuel entry into the carburetor. See page 22, fig. 35.

c) HIGH SPEED MIXT. ADJUSTER: The richness of the combustion at high speed is adjusted by this screw which is located beside the idle speed mixture adjuster. Turning the screw clockwise or counterclockwise gives a richer or leaner combustion. See page 22, fig. 35.

** The standard Sea-Doo model comes without lights. As optional, you can have your Sea-Doo equipped with lights for night cruising.*

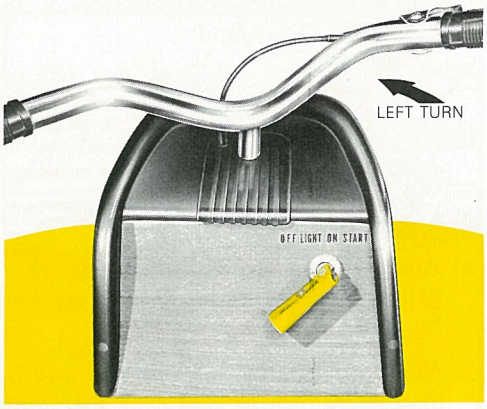


Figure 8

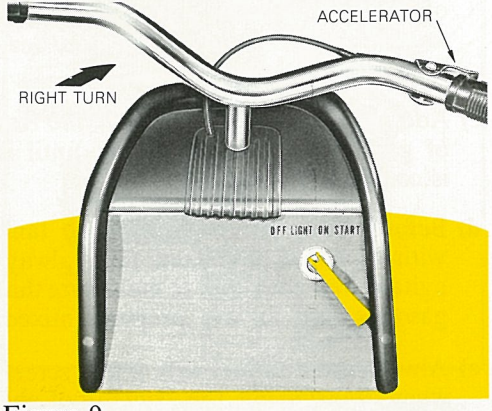


Figure 9

Figure 10

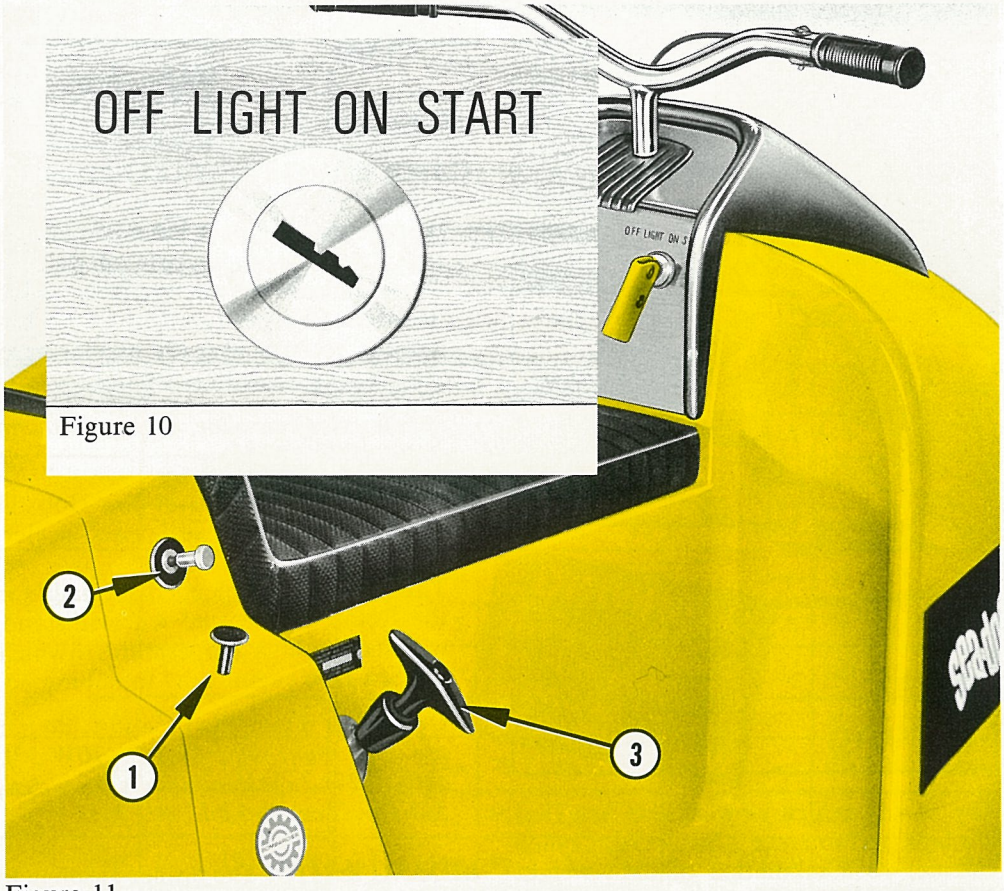


Figure 11

Fuel mixing

The Rotax which powers the Sea-Doo is a high performance 2-Stroke Air Cooled Engine; its combination of light weight and high output has been well proven in the snowmobile field. But, like any high precision machinery, it needs lubrication. This is done by adding oil to the fuel. Therefore it is easy to conceive the importance of the correct gasoline and oil mixture ratio. See page 13.

GASOLINE: The use of a correct gasoline is very important for your engine. A high octane gasoline *(premium gasoline)* will be harmful because of its high lead content. When available, white gasoline *(Marine gasoline)* is the best choice; you can also use regular gasoline, but not less than 75 octane.

Never use red gasoline, naphta, methanol or similar products.

OIL: Use only Ski-Doo or Sea-Doo oil available from your authorized dealer. See fig. 17.
This oil has been blended specially for the Rotax engine, and will withstand, with success, high temperatures to which the Sea-Doo engine may be submitted.

Unless it is absolutely necessary, do not use any multi-visc. (S.A.E. 10W-30), outboard or 2-cycle motor oils other than Ski-Doo/Sea-Doo oil.

MIXING RATIO: The proper gasoline to oil mixture ratio should be 16:1, or 16 parts of gas for 1 part of oil, i.e. one quart of Ski-Doo/Sea-Doo oil for 4 gallons of gasoline.

REMARK: *A mixing ratio lower than 16:1 can produce excessive carbonization of the engine. A ratio higher than 16:1 will cause overheating of the engine, which may result in a seized piston, damaged bearings or even a broken connecting rod.*

MIXING PROCEDURE:

a) Always use a clean container (5 or 10 gallons) when mixing your fuel. See fig. 12.

Never attempt to mix the gas and oil diredtly into your Sea-Doo fuel tank.

b) Pour into your container about half of the gasoline to be mixed. Then add the required amount of Ski-Doo/Sea-Doo oil and shake well.

c) Add to your mixing container the rest of gasoline and agitate again until it is completely mixed.

d) Before filling up your Sea-Doo tank with a stored premixed fuel, always agitate your container to make sure that gasoline and oil are properly mixed.

e) Always use a funnel with a fine screen when transferring the content of the mixture container into the Sea-Doo tank.

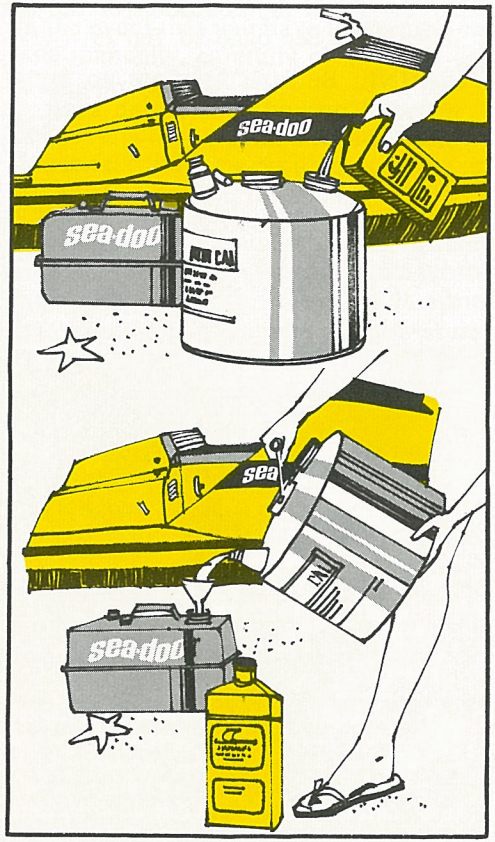


Fig. 19 shows the quantity of Sea-Doo oil required to mix in a ratio of 16:1 a given quantity of gasoline.

Figure 14

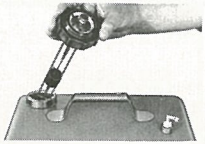


Figure 15

Figure 16

Figure 17

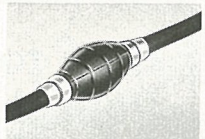


Figure 18

Gasoline and oil mixing chart

GASOLINE		SEA-DOO OIL Oz.	Imp. qt.	U.S. qt.	GASOLINE		SEA-DOO OIL Oz.	Imp. qt.	U.S. qt.	GASOLINE		SEA-DOO OIL Oz.	Imp. qt.	U.S. qt.
2.5 gal.	*Imp.*	25	5/8	0.78	5.5 gal.	*Imp.*	55	1 3/8	1.71	8.5 gal.	*Imp.*	85	2 1/8	2.65
	U.S.	20	1/2	5/8		*U.S.*	44	1.1	1 3/8		*U.S.*	68	1.7	2 1/8
3 gal.	*Imp.*	30	3/4	0.93	6 gal.	*Imp.*	60	1 1/2	1.87	9 gal.	*Imp.*	90	2 1/4	2.81
	U.S.	24	3/5	3/4		*U.S.*	48	1 1/5	1 1/2		*U.S.*	72	1 4/5	2 1/4
3.5 gal.	*Imp.*	35	7/8	1.09	6.5 gal.	*Imp.*	65	1 5/8	2.03	9.5 gal.	*Imp.*	95	2 3/8	2.96
	U.S.	28	0.7	7/8		*U.S.*	52	1.3	1 5/8		*U.S.*	76	1.9	2 3/8
4 gal.	*Imp.*	40	1	1 1/4	7 gal.	*Imp.*	70	1 3/4	2.18	10 gal.	*Imp.*	100	2 1/2	3.12
	U.S.	32	4/5	1		*U.S.*	56	1 2/5	1 3/4		*U.S.*	80	2	2 1/2
4.5 gal.	*Imp.*	45	1 1/8	1.4	7.5 gal.	*Imp.*	75	1 7/8	2.34	15 gal.	*Imp.*	150	3 3/4	4.68
	U.S.	36	0.9	1 1/8		*U.S.*	60	1 1/2	1 7/8		*U.S.*	120	3	3 3/4
5 gal.	*Imp.*	50	1 1/4	1.56	8 gal.	*Imp.*	80	2	2 1/2	20 gal.	*Imp.*	200	5	6 1/4
	U.S.	40	1	1 1/4		*U.S.*	64	1 3/5	2		*U.S.*	160	4	5

Figure 19

How to board from the wharf

Two easy rules to remember when boarding your Sea-Doo from the wharf:

• *Be sure to get on from the side of your machine, as shown on the illustration.*

The center of gravity of your Sea-Doo is located towards the back.
Mounting from the rear, you would upset the natural balance of your machine and cause water to come up on deck.

• *Always make sure that your machine is sitting in at least 12 to 18 inches of water. Fig. 20.*

When idling, the turbine draws water from underneath. Enough water will eliminate the danger of absorbing foreign matter and avoid impeller damages.

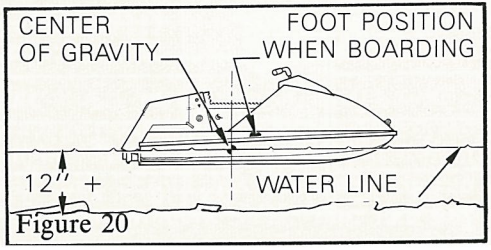


Figure 20

How to start your Sea-Doo

PRE-START CHECK
Before starting, specially if your Sea-Doo has been inactive for a long period of time or before a long trip, pay careful attention to the following points:

FUEL: Check the level, see page 13, fig. 16 and make sure of the mixture cleanliness, (gasoline and oil properly mixed at the right ratio) in the Sea-Doo fuel tank. If necessary, refer to page 13 "Gasoline and oil mixing chart".

Before your first trip of the day, try to make a habit of always shaking the fuel tank to permit perfect gasoline and oil mixing.

CONTROLS: Check if the throttle operates freely. Turn the steering handles slowly from one end to the other to see if the mechanism is free of any particles (small rocks, sand, etc.) inserted between the turbine body and the steering nozzle.

BELTS: Check the condition of the (4) drive belts. See page 20, fig. 29.

TURBINE: Be sure there are no weeds wrapped around the turbine shaft or blocked at the inlet.

ELECTRIC STARTING
On your Sea-Doo, the electric starter is standard equipment. This starter, if properly operated, will be trouble free. *In order to prevent overheating, never let the starter turn for more than 30 seconds. After 30 seconds of operation, a cooling period of 2 minutes should be allowed.*

Pull out the choke knob*. If the engine has reached its operating temperature and you have to restart, it is not necessary to pull the choke.

Turn the ignition switch fully to the right until the engine turns by itself.

NOTE: If for one reason or another the engine does not start, consult page 27.

* *The purpose of the choke is to reduce the amount of air flowing through the carburetor. By doing so, more fuel and less air go inside the engine which will burn a richer mixture. This mixture permits faster starts (in a cold engine), result of an easier combustion into the cylinder head. Richer mixture does not mean more power; in fact, a rich combustion activates engine carbon formation. Therefore, never let the choke knob pulled-out when the engine is running.*

MANUAL STARTING

In the event that you have to start the engine manually, carefully observe the following procedure.

Before proceeding to a manual start, be sure to take the same position as shown on the illustration. See fig. 23.

Starting procedure

Pull out the decompressor valve knob* See fig. 21, item 1.

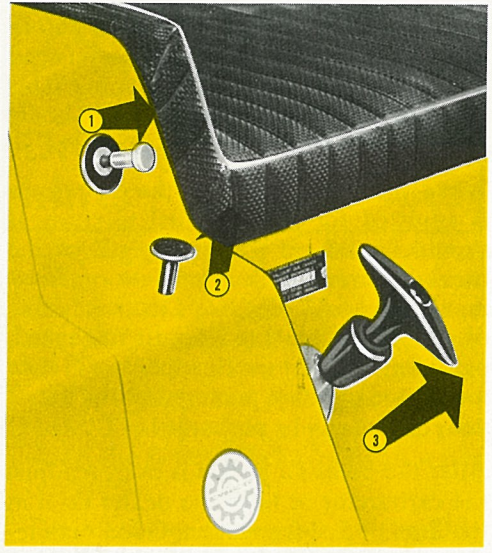


Figure 21

Pull out the choke knob. See fig. 21, item 2.

Turn the ignition switch to "ON" position. See fig. 22.

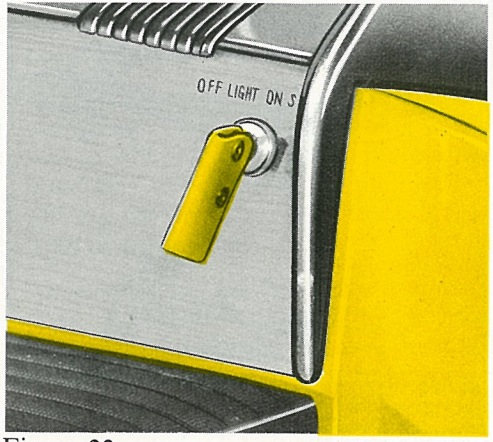


Figure 22

Grasp the starter handle firmly and pull slowly until you feel a resistance. This indicates that the starter mechanism is engaged; then, pull out vigorously. See fig. 21, item 3.

Do not pull the rope completely to the end. Do not allow the rope to fly back to its original position.

As soon as the engine starts running by itself push back both the decompressor and choke knobs.

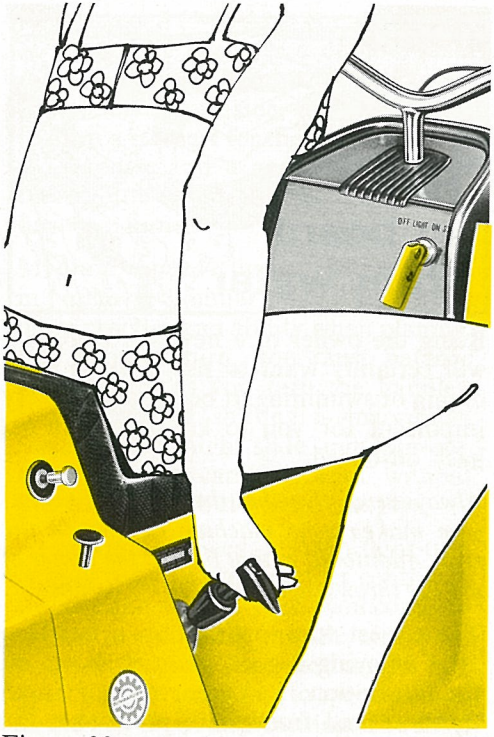
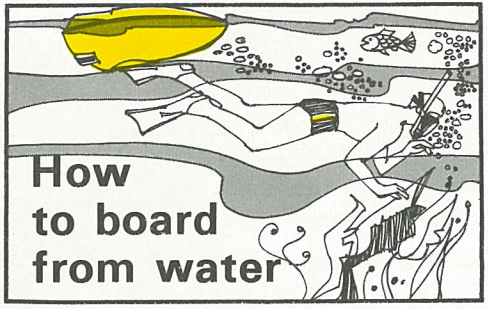


Figure 23

* *The decompressor valve installed on the Rotax engine is a device used to reduce the engine compression for an easier manual start. Maximum performance cannot be obtained with the decompressor "ON". The engine can be ruined if it runs for a long period of time with the decompressor valve "ON".*



How to board from water

Being the owner of a new Sea-Doo, you will certainly want to use it to go skin-diving or swimming. It becomes then very important for you to know how to get back on board.

Always remember that the weight of the engine makes your machine heavier at the rear. Additional weight behind the center of gravity throws your Sea-Doo off balance.

The easiest way to climb on a Sea-Doo after enjoying a good swim is shown on the illustration. You ease yourself up on the nose and from there pivot onto the seat. In this way, you keep your weight up front and your Sea-Doo remains stable.

Another possible way to mount back on, is to put one knee above the rubber bumper, grab one of the handles and slide up on the seat. *Be sure however to keep your weight towards the front end. See fig. 24.*

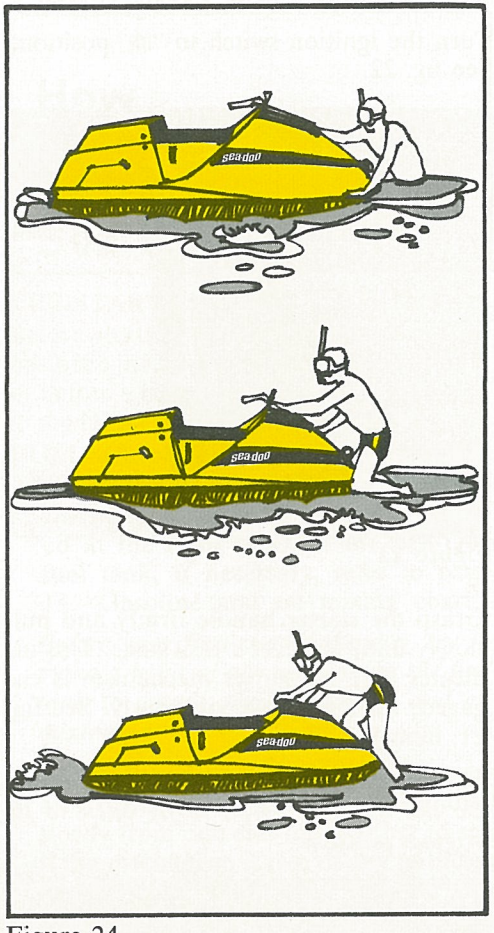
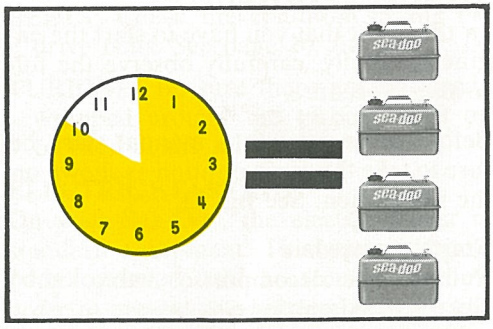


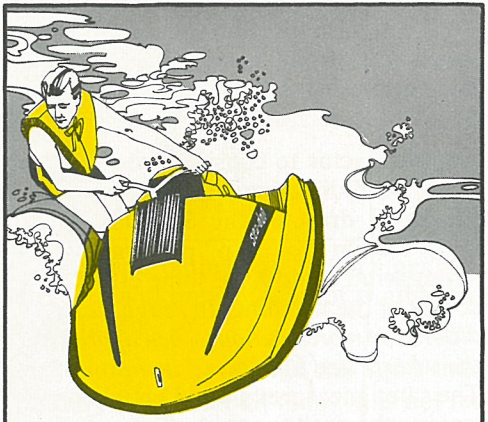
Figure 24



It is recommended to allow the Sea-Doo engine a certain period of break-in before using its full power. The engine parts need to adapt to their proper functioning. This break-in period should last about 10 hours or the equivalent of 4 tanks of fuel.

When you buy a Sea-Doo, the carburetor is adjusted for a richer fuel mixture. It should be left so for the length of the break-in period. *Do not run your engine at maximum speed.* The Sea-Doo is capable of planing before it reaches its full speed, providing it is not overloaded. It will take more time to attain planing but the life of your engine will be prolonged.

After the break-in period is over, readjust the carburetor or have the dealer do it at the time of first inspection. Good maintenance is the secret to the long life of any equipment.



Driving hints

Everybody can enjoy the Sea-Doo providing one knows the fundamentals of driving such a machine. However, there are certain means to increase considerably the performance of the machine and to double the enjoyment it provides. The more you control your machine, the better it behaves in all water conditions.

The manoeuverability of the Sea-Doo can be doubled when planing and turning if the speed is controlled accordingly. In case of a spin-out, the water stops coming in the turbine at one moment and the Sea-Doo loses its initial speed. Good weight shifting and precise throttle action will eliminate this possibility when turning.

PLANING: Planing speed can be reached even if the driver keeps a sitting position at all times. However, there is a possibility to accelerate the planing by shifting the driver's weight towards the front of the machine.

It is possible to push the engine at maximum R.P.M.'s without holding full throttle. On the take-off however, it is advisable to use full throttle in order to have more torque and reach planing speed faster. When the Sea-Doo planes, release the throttle gradually until you feel you are losing speed and then come back a little. The engine turns at its maximum with throttle at 7/8. To keep full throttle continually is useless.

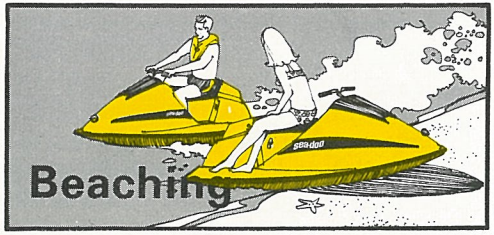
TURNS: Weight shifting is useful at any time but not always necessary. However, when you turn, it becomes a mean of doubling the manoeuverability of your machine. To reach full performance of the Sea-Doo, one needs *practice* for which the following hints could be useful.

At low speed (5-10 M.P.H.), the weight of your body becomes a definite asset for a fast turn. By throwing yourself completely on one side, you cause water to form a support for the hull. A turn of the handles and a greater opening of the throttle will cause the Sea-Doo to turn on a dime.

Medium speed turns are obtained in quite a similar way, but takes more practice and ability when planing. For a quick turn, you must balance your weight as you turn the handles. If your weight shifting is inaccurate, the Sea-Doo might slide and spin-out. However you can still turn without this technique, but not as sharply.

At maximum speed, a sharp tight turn is only possible with perfect control of throttle and weight. When you come into a turn, reduce the throttle, shift your body to the side, turn the handles and open throttle according to speed as soon as the Sea-Doo starts turning. The short reduction of speed increases the draft of the machine and your weight shifting forces the water to form a supporting bank under the hull.

NOTE: *These few hints added to practice and good timing will ensure you the highest performances.*



Because the Sea-Doo has no propeller beneath the hull, it is possible to go through a few inches of water at normal speed and to beach easily, provided you have cut off the ignition. Be sure however never to run up the Sea-Doo on the beach at cruising speed.

When the engine turns, the turbine scoops what is under the hull. If the key is turned off too close to shore, the turbine may suck up debris or sand that might damage the impeller blades.

Running up too often and too fast on sand will scratch the paint off the fiberglass hull. However, if this is done accidentally, there is no serious problem providing you make sure the inlet of the turbine is clear before restarting the engine.

The proper method of beaching is to have a piece of marine grain plywood or a tarpaulin at the edge of the water on which to haul the Sea-Doo. This for a better protection of the hull and turbine. See fig. 25.

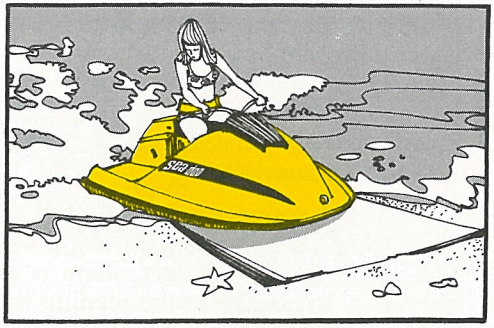
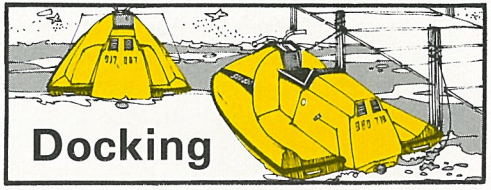


Figure 25



Similar precautions should be taken when cruising the Sea-Doo in toward the wharf.

It is recommended to cut the gaz gradually a little distance from the dock and to coast in slowly. This will prevent the waves created by the draft of the Sea-Doo to come up on the foot boards or to carry the machine in too fast.

The Sea-Doo should not be left tied to the dock for a long period of time. If the waves rock it too much, it may damage the hull; therefore, haul your Sea-Doo completely out of the water every night. This will also prevent algies and other substances from accumulating on the body and causing the performances of the Sea-Doo to decrease.

Another factor to consider when docking is the wind direction and velocity. Due to the small draft of the Sea-Doo and its light weight for top performances, a strong wind could have some effect on the course of the machine. *In rough water conditions, be more cautious when approaching the wharf. See fig. 26.*

The same measures should be taken when leaving the dock for a ride. Too much time spent starting the engine could cause the Sea-Doo to be pushed back in shallow waters and the turbine might scoop up materials liable to block it.

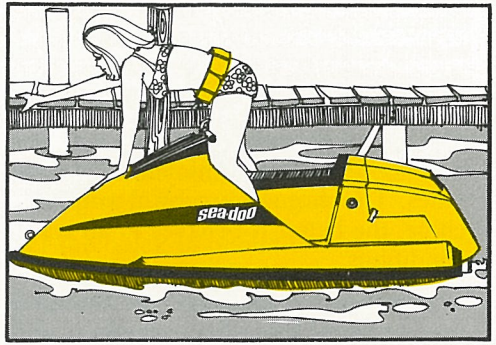


Figure 26

In case of emergency

Before each outing, check your gas supply. This will prevent a lot of trouble. See page 13, fig. 16.

Make sure you have a life belt and a small paddle on board at all times. It is not recommended to overload the Sea-Doo with a second passenger. If you do, bring an additional life belt.

Always carry a spare spark plug and a Sea-Doo tool kit. A special compartment is reserved to this effect. See page 8, item 6.

In case of a clogged turbine impeller or entrance grate, your cruising speed will be reduced noticeably. If this happens, turn the key to "OFF". This will cut the power and release the suction fo the turbine. The obstructing materials will then fall to the bottom.

It may sometimes be better to head for shallow water and clean the grates and inlet by hand. A visual inspection through the nozzle at the back will determine if any weeds are wrapped around the shaft in front of the impeller. If so, reach in and clean it. See fig. 27. A screwdriver may be useful in order to loosen up the weeds around the shaft.

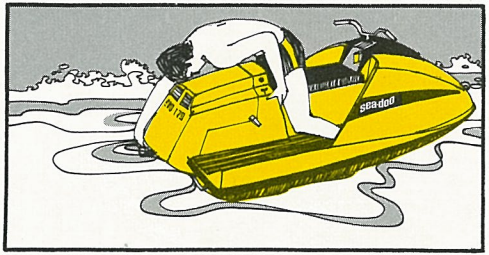


Figure 27

If your handle bars are blocked or difficult to turn, check for little rocks or materials inserted between the turbine and the steering nozzle. Cleaning them out will bring the handles back to free movement and normal rotation.

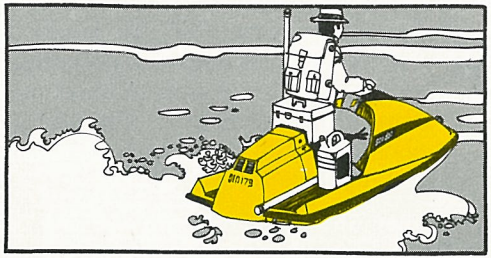


Figure 28

Never overload the Sea-Doo. A load of 250 pounds is the maximum recommended. See fig. 28. The turbine is so designed to reach maximum efficiency at planing speed. See page 4, fig. 4. If the Sea-Doo carries an overload, it will be very difficult to make it plane and the engine will turn full speed for a half-efficient turbine. A normal load will prevent engine overheating at all times.

Carry a rope in case you have to tow another Sea-Doo or a small boat. In such a case, run the engine at half speed to give it a chance to breathe. The extra load will increase the draft of the Sea-Doo and it will not plane. At any times, never force your engine to turn faster than it can scoop air to cool itself.

In case of frequent spin-outs, water may come inside the Sea-Doo. If the drive belts slip, check for an excess of water on the bottom part of the turbine sheave. To give a chance to the syphon to pump out that excess of water, run the Sea-Doo in straight line and at half speed for a minute or two. This will cause the machine to stay upraised at the nose and the water to run to the back. Therefore, it will be easier for the syphon to function and eliminate the water rapidly.

Sea-Doo preventive maintenance

Your Sea-Doo is a reliable machine on which you can have hours and hours of fun, but like any machinery, it needs a certain amount of periodic maintenance in order to keep it in shape.

On the illustration of page 23 every point of the Sea-Doo needing periodic maintenance is indicated:

P1 BELT TENSION: The tension of the belts should be checked at least every 10 hours of operation.

NOTE: *It is advisable to make frequent checks during the first 10 hours. Every 3 or 4 hours.*

To determine the free play, press down with your thumb the middle section of any of the 4 drive belts. A reference to the next belt should show normal flexion of (1) belt thickness (see fig. 29).

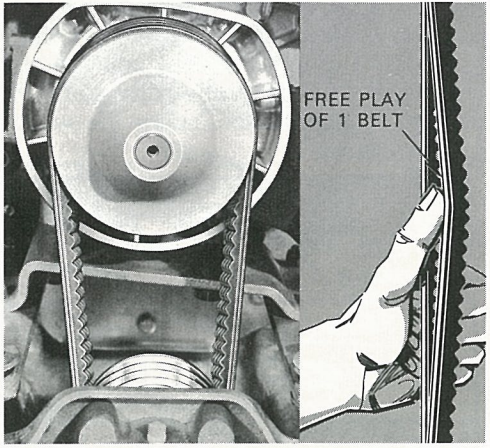


Figure 29

NOTE: *During the first 5 to 10 hours of operation, the flexion should be 3/4 of one belt thickness.*

P2 SYPHON: The syphon filter must be cleaned at least every 10 hours. If the syphon does not work properly, a too great accumulation of water may cause the drive belts to slip. The syphon is trouble free as long as the pick-up tube filter is clean.

To clean the filter, remove the (2) "0" rings holding the screen around the syphon pick-up foot. (See fig. 30).

Remove the screen and clean it with your fingers in clear water.

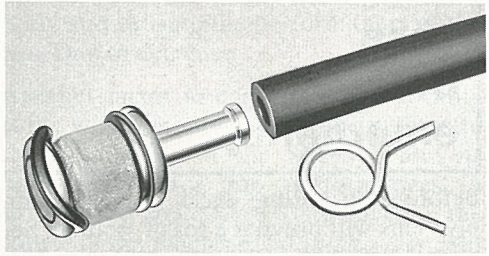


Figure 30

P3 BATTERY: Every 10 hours, check the electrolyte level in the battery. If you have to correct it, *add water.*

Check the battery cable connections and tighten the terminal wing nuts if they are loose.

Figure 31

Check if the battery is perfectly secured in its compartment by the rubber belt.

P4 TURBINE OIL LEVEL: Check turbine oil level after the first 10 hours of operation and if everything seems normal, every month or 40 hours. If refill is needed, use "Lower end outboard gear oil".

a) As shown in the illustration, remove the oil plug, and check if there is oil on the front bearing oil seal(s).* (see fig. 32).

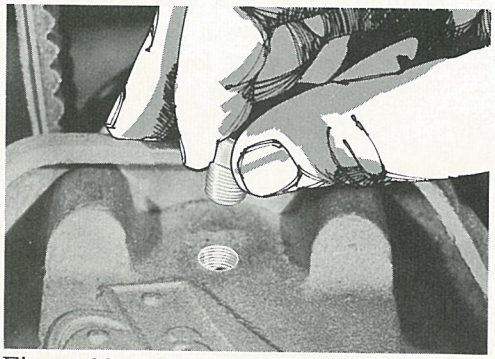


Figure 32

** Some turbines are equipped with (2) plugs instead of one.*

b) Lift the rear end of the Sea-Doo and remove the red plug located inside the turbine (at the end of the stator) and check the oil. The rear bearing section should be half filled. (See fig. 33).

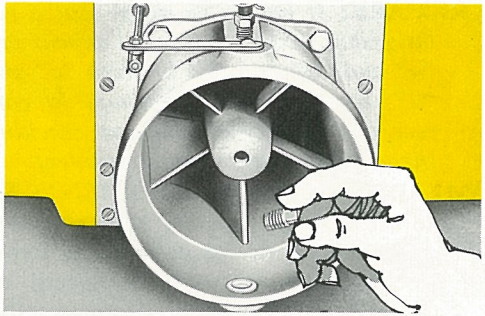


Figure 33

P5 GAS CABLE LUBRICATION: The gas cable and housing should be lubricated every month or 40 hours.

As illustrated, tilt the Sea-Doo on the side and pour some light oil between the cable and the housing. Fig. 34.

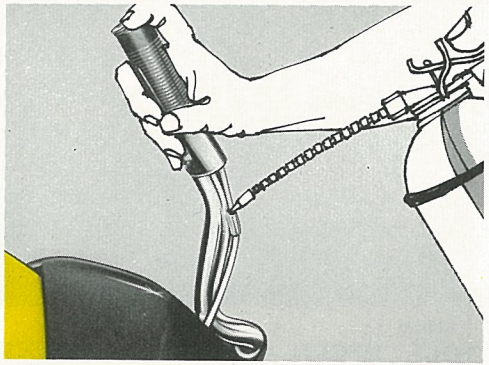


Figure 34

You should allow 2 minutes for the oil to cover the full length of the cable and housing.

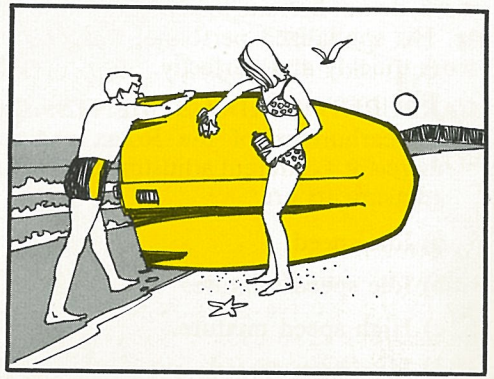
P6 GAS TANK CLEANUP: To prevent dirt and water accumulation in the fuel line and the carburetor, it is advisable to clean the fuel tank every month.

a) To clean the tank, remove it from the Sea-Doo and disconnect the fuel line at the white elbow.

b) Empty the remaining fuel.

c) Pour one to two quarts of gasoline (mixed fuel is not needed) into the tank.

d) Replace the tank cap and shake well. Drain the tank.



Sea-Doo maintenance

In this section you will find a description of changeover or adjustments that you may have to do on your Sea-Doo at one time or another. Before attempting any specific work on the Sea-Doo, be sure that you know the procedure related to your work. If you do not have the proper tools or if you are not sure about the work, do not hesitate to contact your dealer. His specialized personnel will do the work quickly and perfectly.

CARBURETOR ADJUSTMENTS: On the carburetor of the Rotax engine, there are 4 different adjustments. These adjustments are:

a) Idle speed.

b) Idle speed mixture.

c) High speed mixture.

d) Maximum throttle opening.

REMARK: *It has to be noted that a relationship exists between adjustment "a" and "b" and also between "c" and "d" therefore do not attempt to correct one adjustment without checking the other corresponding adjustment.*

M1 IDLE SPEED ADJUSTMENT: To adjust the idle speed*, take a screwdriver and turn the adjustment screw clockwise (to increase the speed) or counterclockwise (to decrease the speed). (See fig. 35, item **a**).

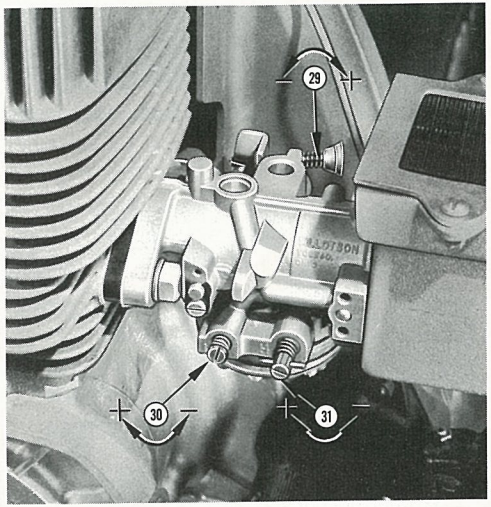


Figure 35

IDLE SPEED MIXTURE ADJUSTMENT: The idle mixture adjustment must be performed carefully because too rich a mixture will activate carbon formation inside the engine. A mixture too lean will result in a lack of lubrication at idle speed.

Turning the idle speed mixture screw clockwise (see fig. 35, item **b**) gives a lean mixture and counterclockwise a richer mixture. *A primary adjustment can be made by turning the screw ¾ of a turn open.* (counterclockwise).

**In order to have a better control of your Sea-Doo at low speed, the idle speed should be set very low.*

M2 MAXIMUM THROTTLE OPENING: When pressing down the accelerator handle, the throttle should be completely opened before the accel - rator touches the steering bar.

To adjust the throttle for maximum opening, loosen the throttle cable ferrule and shorten the upper part of the cable.

HIGH SPEED MIXTURE ADJUSTMENT: As for the idle mixture, turning clockwise or counterclockwise the high speed mixture screw (see fig. 35, item **c**) gives a lean or a rich mixture. *For primary adjustment, open the high speed mixture screw 1⅛ turn.*

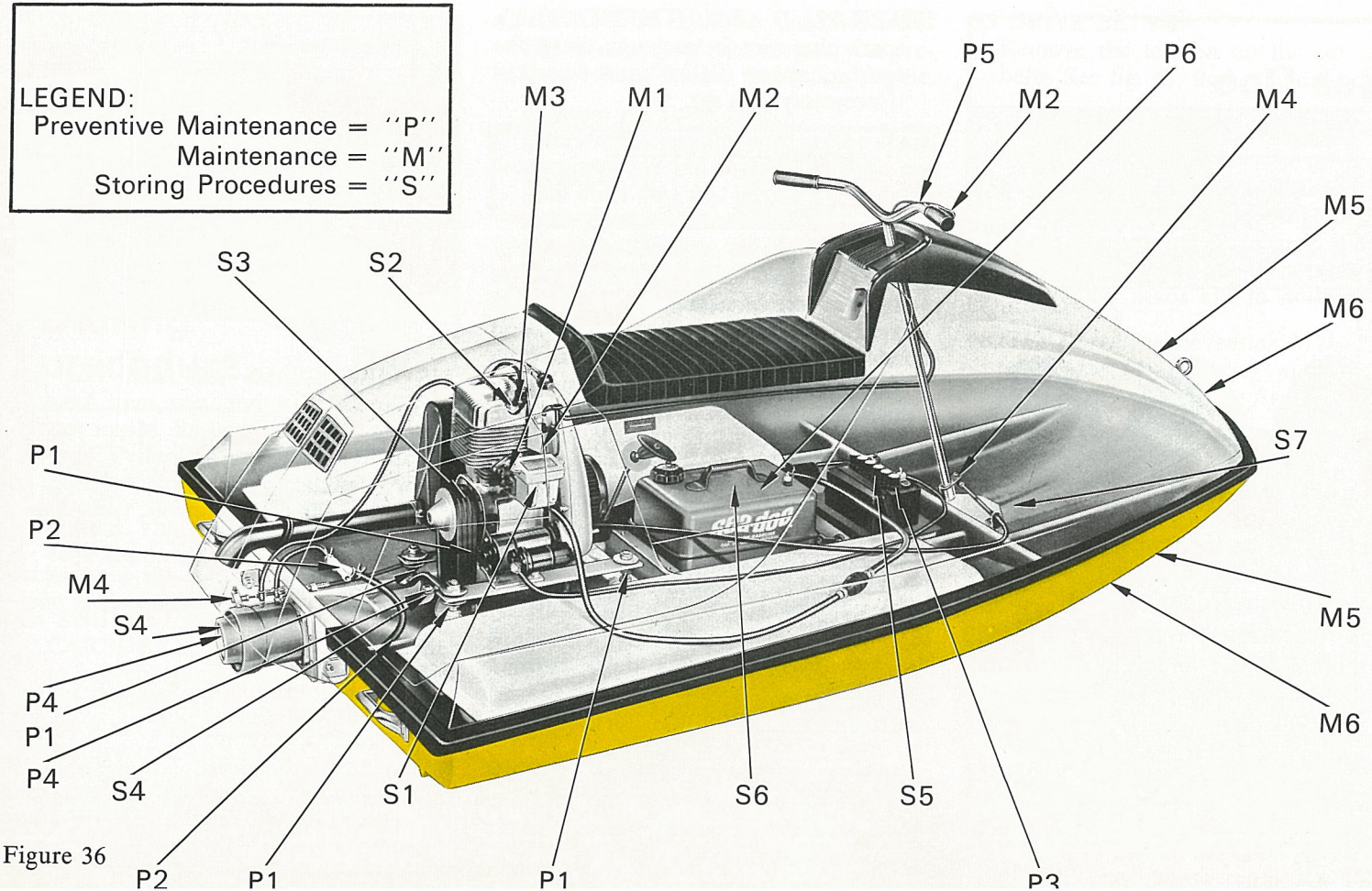

LEGEND:
Preventive Maintenance = "P"
Maintenance = "M"
Storing Procedures = "S"
M3
M1
M2
P5
M2
P6
M4
M5
M6
S3
S2
S7
P1
P2
M4
S4
P4
P1
P4
S4
S1
S6
S5
M5
M6
P2
P1
P1
P3

Figure 36

Sea-Doo maintenance (continued)

M3 SPARK PLUG CHANGE-OVER: Visual inspection of the spark plug may help you to determine the running condition of the engine. Compare the condition of the spark plug with fig. 37.

Figure 37

SPARK PLUG REMOVAL:

a) Disconnect the spark plug wire.

b) As illustrated fig. 38, use the box wrench included in the tool kit to remove the spark plug.

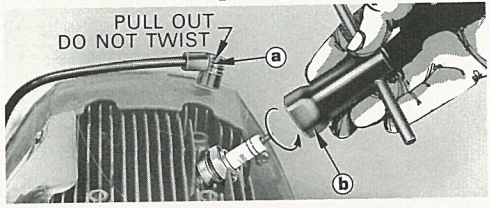


Figure 38

SPARK PLUG ADJUSTMENT: With a spark plug wire feeler gauge, check the spark plug gap (0.020″) and correct it if necessary. See fig. 39.

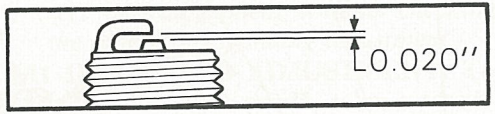


Figure 39

M4 STEERING ADJUSTMENT: The steering mechanism may be adjusted at (2) places (see fig. 36, items M4 and M4A). A turn buckle located at each end of the steering cable permits to increase or decrease the cable length.

ADJUSTMENT PROCEDURE:

a) Disconnect the rear steering cable turnbuckle from the nozzle steering arm. See fig. 40.

b) Center the steering nozzle.

c) Center the steering handles.

d) Keep the nozzle and the handles at right angle to each other and adjust the length of the cable by turning the turnbuckle + or – as required.

e) Reconnect the rear turnbuckle to the nozzle steering arm.

NOTE: *To adjust the steering cable length properly, it may become necessary to use the turnbuckle located at the steering column arm. See page 8, item 18.*

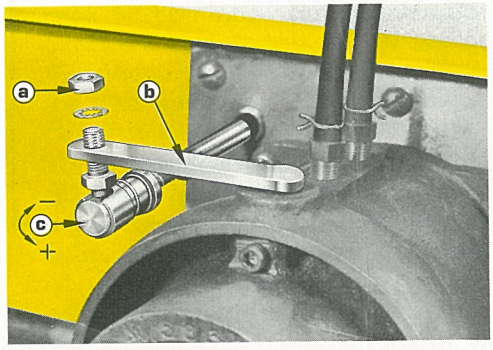


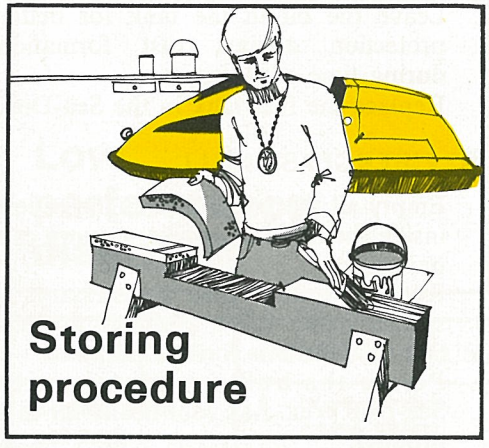
Figure 40

M5 FIBERGLASS REPAIR: For one reason or another, you may have to repair the Sea-Doo hull. Minor repairs can be done easily, specially if you use the fiberglass kit which is available at your dealer's. *We do not recommend that you make big repairs.*

NOTE: *Carefully follow the instructions given on the sheet included in the fiberglass repair kit.*

M6 HULL WAXING:

To increase the performances of the Sea-Doo, it is advisable to wax the hull. Wax on the Sea-Doo will reduce water friction to a minimum. To treat the fiberglass, it is recommended to use the Sea-Doo Wax available at all Sea-Doo dealers.



If need be to store the Sea-Doo for a period exceeding one month, pay careful attention to these few recommendations. This will ensure you/the dealer a minimum of tuning when time comes to use the Sea-Doo again.

S1 ENGINE CARE

CARBURETOR DRY-OUT: In order to prevent gum formation in the carburetor during the period of inactivity, dry it out before storing your Sea-Doo.

Remove the flame arrester from the carburetor body.
Disconnect the fuel line at the gas tank.
Start the engine and let it turn until it runs out of gas.

S2 CYLINDER OILING: Lubrification of the cylinder becomes necessary to prevent rust formation inside the engine.

Remove the spark plug.
Connect the ignition wire on the spark plug and ground the plug on the engine head. See fig. 41, item 1.
Pour the equivalent of one spoonful of Sea-Doo/Ski-Doo oil into the spark plug hole. See item 2.
Block the carburetor throat with a rag to prevent the air from coming in. When you turn the engine, the suction will eliminate the remaining fuel.
Turn the motor with the starter for about 30 seconds.

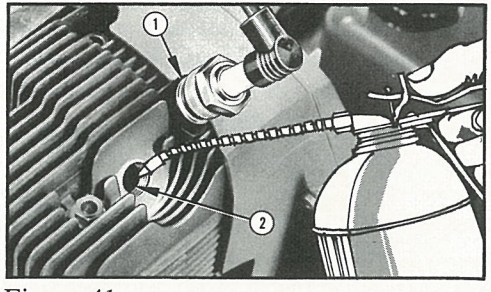


Figure 41

REMARK: *After completing carburetor dry-out and cylinder oiling procedure, remove the rag blocking the carburetor throat and replace the flame arrester and the spark plug in their proper places.*

S3 DRIVE BELTS

Remove the tension on the (4) drive belts. See fig. 43, item 1 and 2.

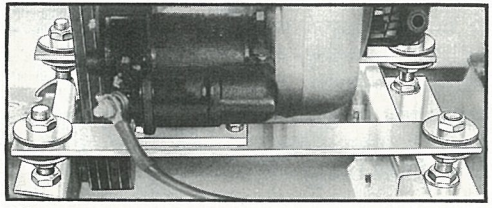


Figure 42

NOTE: *To remove the tension on the belts, loosen the (4) adjusting nuts on the motor mount bolts. See fig. 42.*

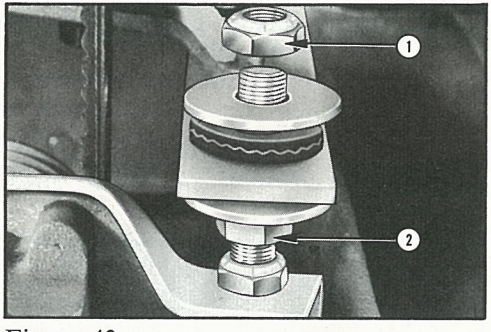
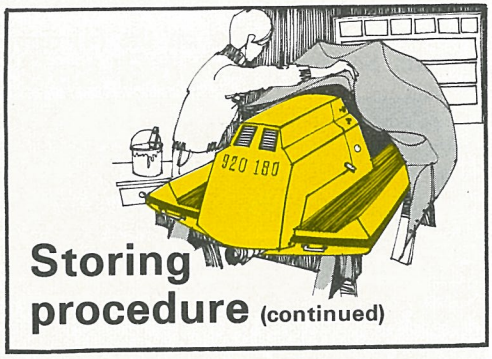


Figure 43

Inspect the (4) belts carefully and check for signs of premature failures. See page 20, fig. 29.
Leave the tension off the belts for the full time of storage.



Storing procedure (continued)

S4 TURBINE

Check the oil in the turbine according to instructions given on page 21.

Add new outboard gear oil for the front bearing oil seal(s).

Change the oil on the rear oil seal before storing.

NOTE: *All necessary procedures regarding oil corrections and changes are given on page 21.*

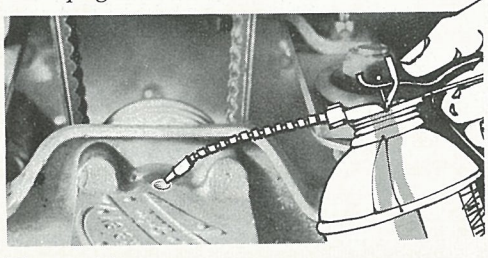


Figure 44

Check and tighten if necessary all the bolts of the turbine mountings (hull to turbine).

S5 BATTERY

Disconnect the battery and remove it from its compartment.

Clean the outside of the battery with a solution of baking soda and water.

Verify the electrolyte level inside the battery. If you have to correct that level, *add enough water to cover the plates.*

Charge the battery and store it in a cool, dry place.

REMARK: *An inactive battery will lose its charge gradually and become sulfated. For this reason, trickle charge the battery every 40 days.*

S6 FUEL TANK

Remove the gas tank from the Sea-Doo and clean it.

NOTE: *Full instructions are given on fuel tank cleaning procedure on page 21.*

Before storing, pour the equivalent of ½ qt. Sea-Doo/Ski-Doo oil in the tank and shake well to give a regular oil coating on all the inside of the tank.

Leave the oil in the tank for better protection against rust formation during time of storage.

Replace the fuel tank in the Sea-Doo.

S7 FIBERGLASS HULL

Empty all the water that might be left inside the hull (an auxiliary pump can be used).

Repair the fiber glass if necessary. A special repair kit is available at your Sea-Doo dealer's for this purpose.

Polish the hull completely with Sea-Doo Wax. Ask your dealer for this product.

Store the Sea-Doo on trestles. Notch the cross members to prevent the center section of the hull from supporting the full weight of the Sea-Doo.

REMARKS:

a) *We recommend to cover the trestles with foam or rubber in order to provide better protection for the hull.*
Cover your Sea-Doo with a protective cloth to avoid dust accumulation storage.

b) *If for some reason you cannot follow the complete storing procedure, we advise you to contact your dealer. He has all the required material and personnel to give you complete satisfaction.*

Low performance diagnosis

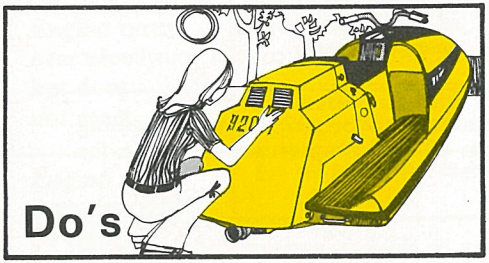
THE CHART: The low performance diagnosis chart is provided for *emergency cases* only. Whenever you are not entirely satisfied with the performances of your Sea-Doo, contact the nearest dealer. Do not attempt to repair the machine yourself unless you are stranded and must do so.

HOW TO USE THE CHART: Before consulting the chart, refer to page 19. The minor obstacles you might run into while driving (weeds or little rocks) are referred to in this section and can be corrected easily. However, if you have to use the Chart for some reason or other, *note* that the items "Possible Causes" are stated in order of possibility and are mostly found in abnormal situations. Whenever you can, it is *advisable* to have the machine repaired by an authorized Sea-Doo dealer.

SYMPTOMS	POSSIBLE CAUSES	WHAT TO DO (REMEDY)
Engine does not turn	**1 – Starting system, engine, turbine**	Try to turn engine with manual starter. a) If engine turns, check "Starting System" under "Possible Causes". b) If engine cannot be turned, check "Engine" and "Turbine" under "Possible Causes".
	2 – Wire connections (Starting System)	Check for loose battery and starter connections. Tighten if necessary.
	3 – Battery	Battery may be completely discharged or defective. To know if the battery is faulty, try to start the Sea-Doo manually.
	4 – Starter	If the starter seems defective, contact your dealer for quick repair or replacement.
	5 – Seized engine	In the case of a seized engine, contact your dealer. Seizure is a direct result of poor lubrication.
	6 – Turbine	a) Make a visual check of the turbine, and clean it if necessary. b) Contact your dealer if the turbine internal parts seem broken or defective.

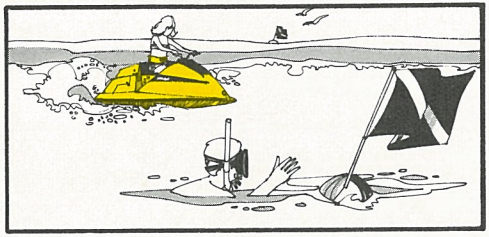
Engine turns over slowly but does not start	**1 – Wire connections (Starting System)**	Refer to item 2 in "Possible Causes" of "Engine does not turn".
	2 – Battery or Starter	Refer to item 3 & 4 in "Possible Causes" of "Engine does not turn".
Engine turns over, but fails to start or starts with difficulty	**1 – No fuel to the engine**	Check the tank level and fill up with correct gas-oil mixture. Prime the carburetor with the bulb type primary fuel pump. Unscrew the fuel tank vent hole which is located on the fuel gauge top.
	2 – Faulty Ignition	Remove the spark plug wire, and hold it at about ⅛" from the cylinder head. Apply the starter, and if no sparks appear, it means a faulty ignition system. *Do not attempt to repair. Contact your dealer.*
	3 – Spark Plug	Check for a fouled or defective spark plug. Replace it if necessary.
	4 – Flooded Engine	Press down the accelerator, push the choke knob to its normal position, pull the decompressor knob and try to start the engine. *Do not use the starter for more than 30 seconds at a time. Allow 2 minutes to the starter to cool off.*
	5 – Too much oil in fuel	Drain the fuel tank and fill it with the correct mixture (16 parts of gasoline to 1 part of Sea-Doo/Ski-Doo oil.)
	6 – Low speed adjustment incorrect	Screw in the low speed adjuster, and turn it back ¾ of a turn. Make final adjustment when engine is running.
	7 – Clogged fuel line (water or dirt)	Remove and clean the fuel filter.
	8 – Faulty Carburetor	Contact your dealer for quick repair.

Engine turns over, but fails to start or starts with difficulty (continued)	**9 – Breaker Points**	Breaker points may be worn or out of adjustment. In this event contact your dealer.
	10 – Poor engine compression	Running with improper fuel mixture may produce an excessive engine wear resulting in a poor engine compression. If this problem of low compression occurs on the engine, contact your dealer at once.
Engine lacks acceleration or power	**1 – Fouled spark plug**	Change the spark plug. Fouled spark plugs may be cleaned, regapped and tested by your dealer.
	2 – Defective spark plug	Check for defective spark plug and change it if necessary.
	3 – Dirt or water in fuel line	Remove fuel filter and clean it. Check the cleanliness of the fuel and drain the fuel tank if necessary.
	4 – Defective ignition	If the ignition system seems defective, contact your dealer for the necessary repairs or adjustment.
	5 – Carburetor	Readjust the carburetor, if the trouble persists contact your dealer.
	6 – Engine	If the engine seems defective, contact your dealer.
Sea-Doo can't get its full speed, while engine turns maximum	**1 – Water on drive belts**	Frequents spin-outs may cause accumulation of water around turbine "V" belt sheave. Driving straight for one minute or two, at half speed, will give a chance to the syphon to pump out the excess water. *In any case, do not attempt to retighten the belts.*
	2 – Worn out drive belts	Worn out drive belts will cause slippage. If this situation occurs, contact your dealer for belts change-over.

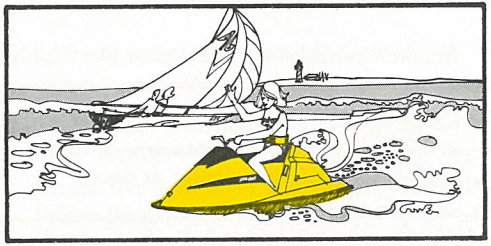


1–Register your Sea-Doo at once. With its 18 H.P. engine, the machine falls under operating rules for small pleasure crafts.

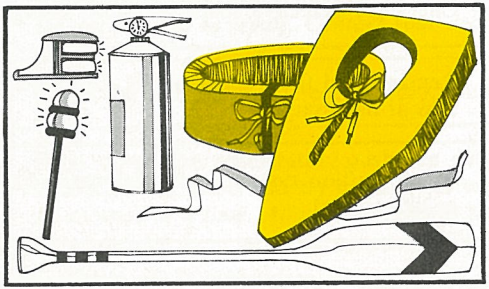
2–Send for a brochure on water safety and read it thoroughly. Any Department of Transport and Communication, will gladly send it to you.



3–Respect skin-diving signs at all times. Slown down considerably if you have to go through an area where skin-divers are at work; you could cause an accident if the divers happen to surface.

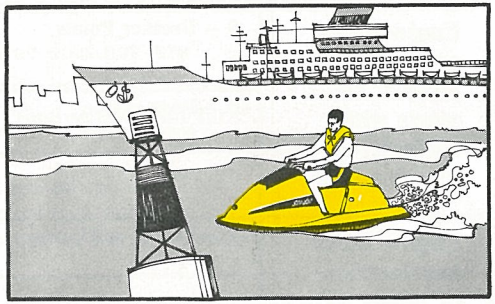


4–Give right of way to sailboats and less powerful or smaller crafts.



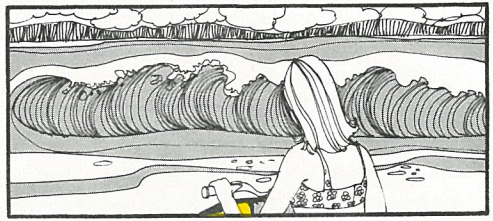
5–Whenever outing, be sure you have the necessary security material with you. Use government approved life-jackets only and make sure they are comfortable and well adjusted, especially on children.

6–Install lights on your Sea-Doo if you intend to drive at night. Care for other people's safety as well as for your own.

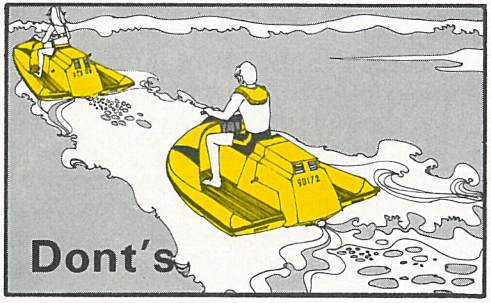


7–Learn the laws of navigation if you intend to use your Sea-Doo on rivers or lakes where big boats make use of cruising channels.

8–Check the water conditions when you use your Sea-Doo. Whenever you enter new waters, make sure the area is safe.

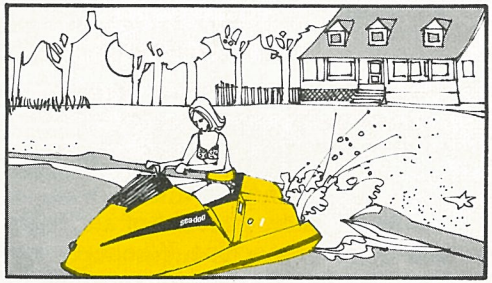


9–Check the weather forecast if you intend to leave for a long cruise. Whenever adventuring far from shore, be sure you can come back fast enough in case of a sudden change of temperature.

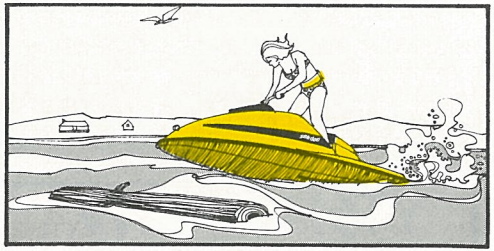


1—Do not cruise in the wake of another boat. If its draft is too large, you could lose speed.

2—Don't bump another Sea-Doo. The machine is equipped with rubber bumpers for greater care of the hull only.

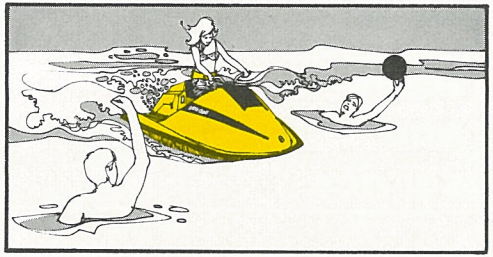


3—Do not start your Sea-Doo engine at shore. Good care and maintenance of your turbine is a guarantee of longer life.



4—Don't glide over logs and rocks. If it has been demonstrated that it could possibly be done at times, don't take unnecessary risks to damage the hull.

5—Never overload your Sea-Doo. It is a light and powerful machine meant for enjoyment; an overload will reduce its speed and efficiency. Don't sacrifice manoeuverability for heavy loads and slow response.

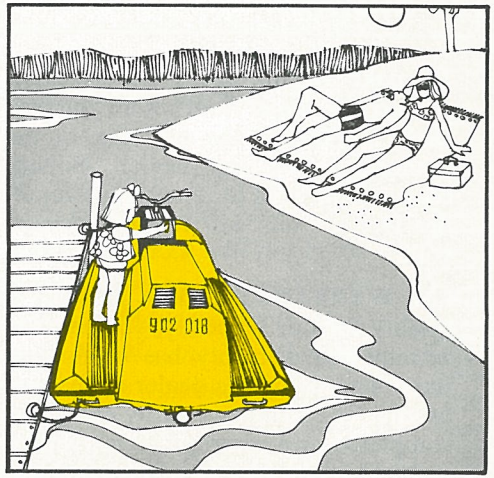


6—Don't ride around in the vicinity of swimmers. Do not become a menace to those who have other means of enjoying the water.

7—Don't let anybody use your Sea-Doo unless he is familiar with all the principles of operation.

CAUTION
NEVER REFUEL WITH TANK IN SEA-DOO

8—Never smoke while refuelling. Why be careless in front of danger.



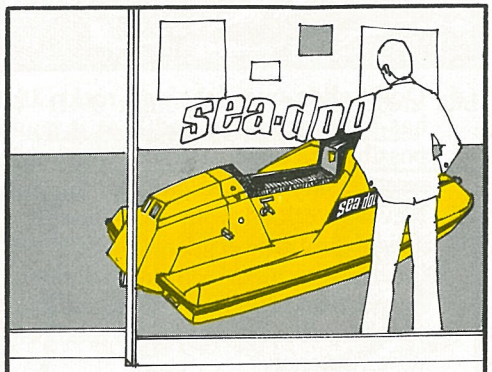
9—Never leave your Sea-Doo alone with your key in the ignition switch.

How to make a claim

To make a claim under this warranty, contact the dealer from whom you originally purchased the machine, or any authorized Sea-Doo dealer. Nobody else is authorized to repair a warranted Sea-Doo or this will render warranty void.

I.B.M. WARRANTY CARD: In order to qualify for our warranty, you must be certain that warranty has been registered with us by the dealer at the time of sale. The I.B.M. warranty card, once completed and returned to us, will register the warranty in your name and permit us to have a detailed record of the operation of your machine.

CLAIMS: When completing the warranty claim papers, a copy is also provided to you by the dealer for your records. As owner of the machine, *your signature* is required on this form, to authorize repairs.



Parts and service

For a longer life of your Sea-Doo, always make sure that you install genuine Bombardier Sea-Doo parts, if you have to make any replacements on the machine. This will permit a better and more pleasurable use of the Sea-Doo at all times.

DEALER INSPECTION: After 10 to 15 hours of operation, bring the Sea-Doo back to your dealer for inspection. Following this break-in period, the necessary checks should be made in order to readjust all parts. This primary check-up and a further good periodic maintenance will ensure a summer of fun with your Sea-Doo.

Whenever it is necessary, do not hesitate to have your dealer inspect the Sea-Doo. Good care of parts and body is essential to keep performances at a maximum. Remember that a Sea-Doo dealer is always ready to provide specialized hands and material to your entire satisfaction.

SEA-DOO LIFE RECORD CARD: If you have to use your warranty, contact the dealer from whom you bought the Sea-Doo. The dealer keeps a duplicate of your warranty certificate with, on the reverse side, a record of all repairs done on your machine. Whenever your Sea-Doo is repaired, be sure to *sign your Sea-Doo life record card,* on hand at your dealer's. This will save you a lot of time if you ever have to make further claims.

WARRANTY

Bombardier Limited, as manufacturer, warrants to the original retail purchaser, that each new Sea-Doo Aquascooter is free from defects in material and workmanship for a period of ninety (90) days from date of purchase by the original end user.

Our obligation under this warranty is strictly limited to repair or replace any defective part which has been returned to the factory, shipping costs prepaid, and determined to be defective by the manufacturer.

It is essential in the application of this warranty that the Sea-Doo Aquascooter was not subject to any accident or misuse, and has always been repaired with Bombardier repair parts, and by an authorized dealer. Will not be warranted a modified Sea-Doo Aquascooter unless such modification would have been previously approved, in writing, by the manufacturer.

This warranty does not apply if the Sea-Doo Aquascooter has been used by an authorized Sea-Doo dealer or any other person prior to the original retail sale.

This contractual warranty, limited to the aforementioned period, replaces all other legal warranties, and the MANUFACTURER will not be responsible under any circumstances, for any loss or damage, as a result of any hidden defects, accidents, misuse or other faults. No one is authorized to modify the conditions of this warranty.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