



Surftek Aquasurf 150

User Manual



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Safety Notice

1. A beginner should be accompanied with a partner.
2. Safety helmet and life vest must be worn before riding.
3. The rider must attach the safety kill cord key to the life jacket, this will automatically shut off the engine on your jet board.
4. Please keep a safe distance when more than one motorized surfboards are being used together.
5. Please reduce the speed and turn off the engine, when heading back to the shore and allow the inertia to move your surfboard.
6. Please do not ride the Aquasurf 150 too far away the shore.
7. Young children, and people who have heart disease, hypertension or any other serious illnesses are not recommended to use this product.

User Notice

1. Open the engine hatch and take out the desiccant packets from the engine compartment before using.
2. Fill up fuel tank (Premium Gas Recommended) (Ethanol free) and water intake before using.
3. Check the electric status of the battery, check method: Insert the KPWR key and check if the LCD display lights up.
4. Check the sealing bars and electric wire to ensure they are insulated and secure.
5. After using your jet surfboard, open the hatch cover and check whether there is water in the engine compartment. If there is, please flush with fresh water and follow the draining instruction procedure.
6. If you are preparing to store the Aquasurf 150 for long periods at a time, insert the desiccant bags back in the cabin and cover the hatch and remove the fins so that they don't get damaged.
7. Do not start the engine in airtight space. The exhaust releases carbon monoxide gas which can cause unconsciousness, or lead to death. Push in the key pull the throttle rhythmically until the engine working steadily.

Please note that EFI is should start in no less than 5 seconds

Product Outline – Aquasurf 150



The Aquasurf 150 is a modern powered surfboard designed by our engineers, the advantages of the Aquasurf is its, portability, durability and efficiency. It is equipped with our very own researched and tested patented single cylinder, water-cooled, 4-stroke engine and electronic fuel injection system and all electric ignition system, giving the rider the ultimate comfort in user ability. Surftek Also boasts an all new ecotek engine that provides cleaner greener fuel efficiency , keeping the environment in mind.

Specifications

Engine Model: STIP52

Description of Engine: 4-stroke, single cylinder, water cooled

Engine Displacement: 149ml

Max Power: 10KW

Aquasurf 150 Hull Material, FRP, Carbon Fiber

Material: Alloy Aluminum

Spark Plug Model: E7RTC

Maximum torque: 2.5N.m/7000rpm

Starting System: Electric

Ignition System: EFI

Gear Oil: 93#

Machine Oil Type: SG 15W-40

Gear Oil Capacity: 900ml

Battery Type: Lithium 12V 12A

Maximum Load Capacity: (1 Person) 120kg/260 Lbs

Max Fuel Consumption: 3h/6L

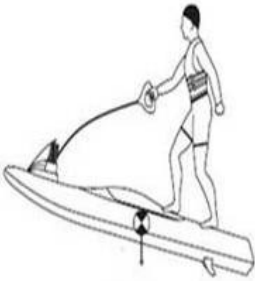
Maximum Speed: 50-58km/h

Fuel Tank Capacity: 6L

Net: About 80kg/176 Lbs

Schematic Diagram

1. If rider stands at the Back end of the surfboard, the front will rise and the resistance will increase, the speed will decrease.

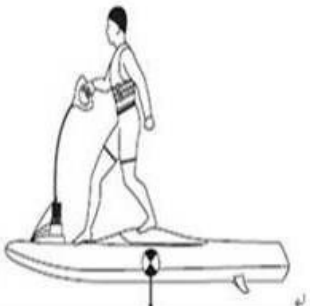


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2. If the rider stands in the middle of a surfboard, the speed will increase.



Bary Center

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3. If the rider stands in the front of Aquasurf 150, and makes the Aquasurf 150 run parallel with the water surface, the speed will increase .



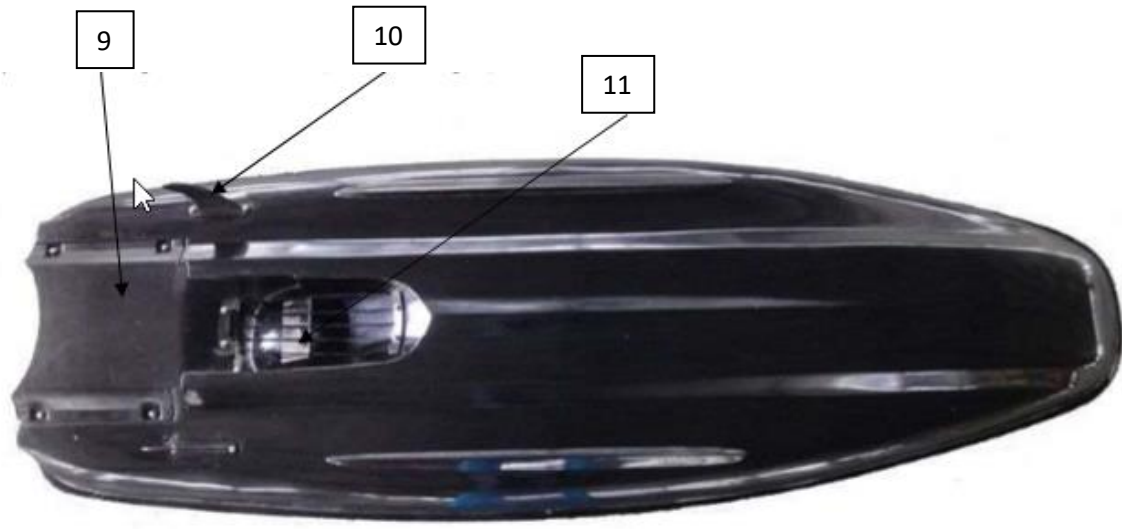
Bary Cente

Surftek Aquasurf 150 Main Parts Chart



1. Throttle Controller
2. Throttle Switch
3. Safety Line
4. Air Intake and Outlet
5. Rubber Boot
6. Handle
7. Hull
8. Hatch

Underside View

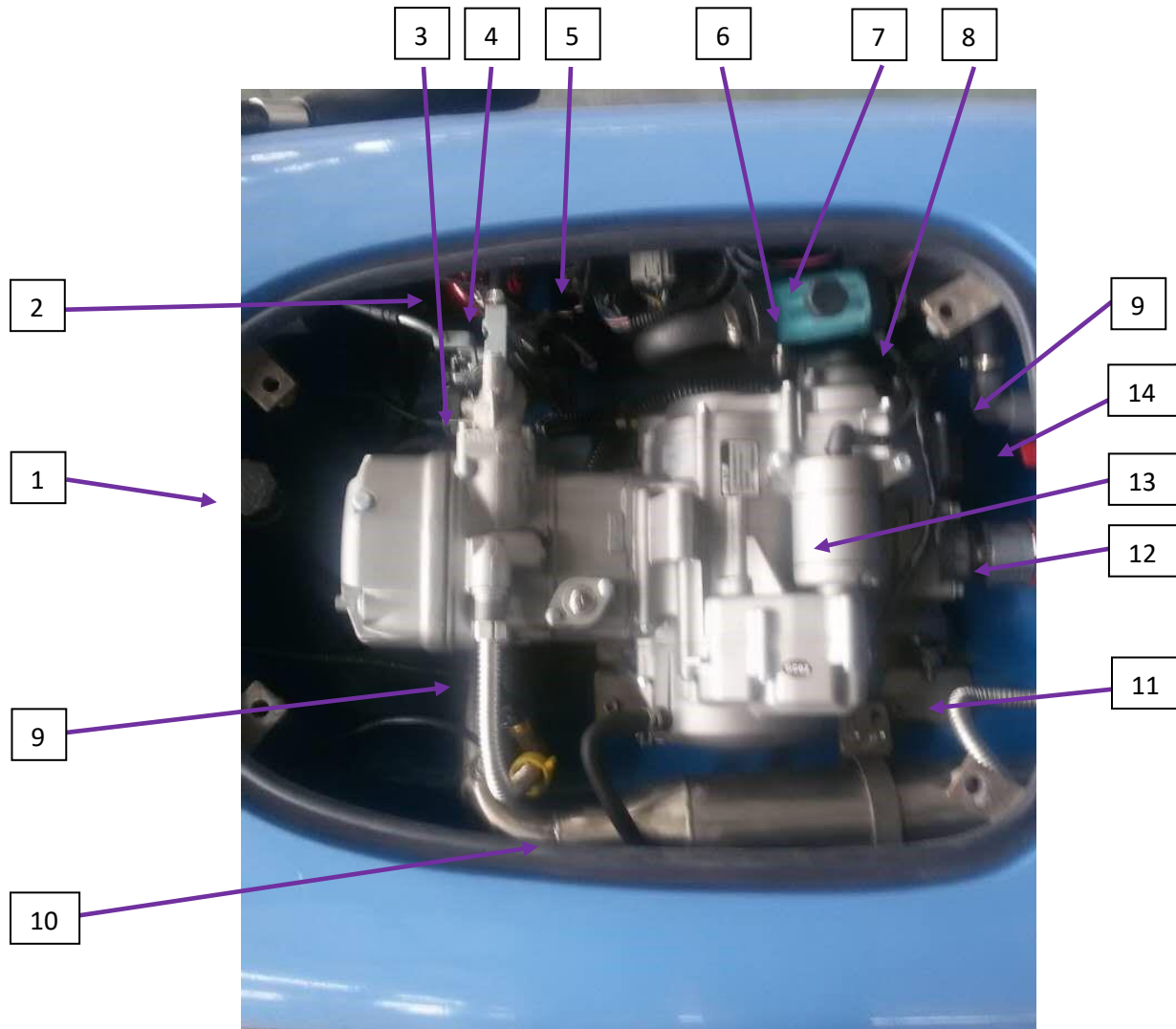


1. Pump Blind Flange
2. Fins (left and right)
3. Deflector

Using Your Motorized Surfboard

In order to prevent water from entering the cabin, tighten the cabin screws after opening the Aquasurf 150. If water enters the air filter, the engine will not work as smoothly. In this case, follow this quick solution, restart engine and choke 3 times, let the cylinder dry out. If the rider had turned the Aquasurf 150 body over many times, a large quantity of water will enter the cabin, in this case, please return to the beach, and drain out the water, then restart Aquasurf 150 again after a few minutes.

Ecotek Engine Schematic



1. Gas Tank
2. Air Filter
3. EFI
4. EFI Controller
5. Battery
6. Filter Cap
7. Fresh Water Rinse
8. Oil Reservoir and Dipstick Cap
9. Water Intake
10. Exhaust Pipe
11. Outlet Hose
12. Coupling
13. Starter Motor
14. Water Inlet Tap

EFI (Electric Fuel Injection) System



The electronic fuel injection system should use a 12V 12 A Lithium battery. It has the cold start enrichment and automatic cold fast idle function, that can ensure a smooth start even if the engine is in a cold or hot status. Before starting EFI, you should check the oil first. It cannot operate without oil, otherwise it will cause the fuel pump wear, overheating and damage. Before dis-assembly of the engine and electronic control unit, or if you are disconnecting the wiring harness connector plug, you must shut off the ignition switch or remove the battery line in order to avoid high electric circuit damage to the electric control components.

EFI Controller



Surftek's EFI controller replaced the traditional mechanical system (carburetor) to control fuel flow to the engine. The Electronic Fuel Injection System can input many signals to the electronic control device, including engine temperature, air-fuel ratio, throttle condition, engine speed, load, crankshaft position and surfboard status. Based on these parameters, the electronic control device calculates and controls the fuel injection quantity and injection timing of the cylinder, and the fuel injected into the intake is atomized through the injector under pressure. Furthermore, mixed with the air current into the combustion chamber, thus ensuring the engine and the catalytic converter is always at its optimum performance

Ecotek Fan Functions:

1. Ecotek combustion, energy saving and environmental protection system.
2. The fan cooling unit is sealed and also prevents water from flooding.
3. Provides cooling to the engine compartment.



Inlet Fan

The fan inlet guides air stream to the impeller.

Outlet Fan

Air is extracted by the fan, through the evaporator.

Function:

1. Air circulation prevents overheating and thermal cooling
2. Provides air supply to the engine.

Water-cooling System

Water-cooling is the main method of cooling the engine. Please check the level of water in the system regularly. Lack of water can cause permanent damage to the engine

Spark Plug Socket

1. Remove the spark plug using plug wrench.
2. Replace new spark plug in the following cases: electrode wear and tear, excess carbon deposit, burned or cracked insulator.
3. **Insert** the spark plug into the engine, turn the spark plug by hand 1-2 times.
4. Tighten the spark plug using a plug wrench.
5. Do not use spark plugs that are not suitable for this engine.

Power

1. If the Battery Voltage is not enough, please recharge.
2. Please adjust battery charger's capacity switch to 12V before charging. Red clip is for positive pole, and blue/black clip is for the negative pole of the battery.
3. The Electronic Control Unit (ECU) is a highly sensitive device, and if the battery polarity is reversed, the ECU will be damaged.

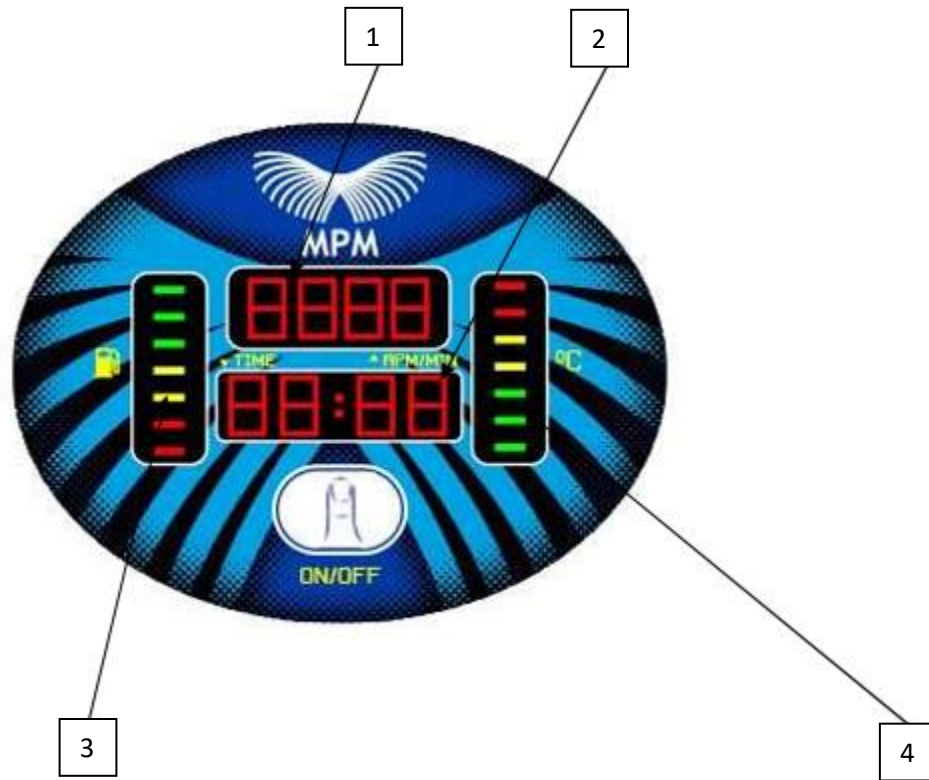
The Power Key (Kill Switch)

When the Aquasurf 150 is stopped, please remove KPWR key immediately.

Transportation and Storage

1. If you are preparing to carry or store up Aquasurf 150 for a long time, you must empty out the gasoline from the EFI and gas tank.
2. To prevent the cylinder from being rusted, please drop the 15-20ml clean engine oil into the cylinders and start the engine several times. This will ensure that the engine is well lubricated

Control Panel



1. Speedometer
2. Riding Time
3. Fuel Level
4. Engine Temperature
5. Do NOT use spark plugs that are not suitable for this engine.

Installation of Finlets



Installing the fins is purely preferential. The fins add to some stability, especially in heavier coastal waters. They are not necessary for the function of the board.

1. To remove the two side fins and four screws in the carton.
2. Insert the two side fins into the reactive groove of tail respectively (pay attention to camber of the board).
3. Please attach the two side fins on the groove with the key, then screw down with two screws and ensure that the fins are affixed.

Please note that you can angle (adjust) the fins backwards according to your personal use.

Replacing the Air Filter



The process of replacing the air filter is as follows:

1. Twist the screw and remove the hatch.
2. Use a Phillips screwdriver (tools provided).
3. Unscrew the bar clasp from air filter.
4. Remove air filter from bar clasp.
5. Replaced new air filter.
6. Tighten the screw on the bar clasp, make sure the new air filter fixed and sealed.
7. Replace hatch cover.

Drainage System



Attention: If water enters the cabin, use steps below to drain out.

Step 1: Unscrew two plugs from stern by hand.

Step 2: Lift up Aquasurf 150, body backwards to about 30 degrees.

Step 3: After draining, please tighten the two plugs.

Maintenance and Trouble Shooting

A: Check

C: Clean

R: Replace

Items	Running Time (Hours)				
	100	300	600	900	1200
Filter Element of Air Filter	C		C or R		C or R
Spark Plug	A or R	A or C	A or C	A or R	A or R
EFI	C		C		C
Carbon Deposit in Combustion Chamber	C		C		C

Trouble Shooting: Pressure of Cylinder

Symptom	Trouble Location	Reason	Trouble Shooting
Low Pressure, Trouble Starting or unstable idle at Low Speeds	Cylinder head	Leakage or gasket (including) air cylinder washer and cylinder sealing gasket) damage. -Bent or warped cylinder head.	Replace gasket or seal with gum sealant. -Replace engine head.
Overheating, Excess Pressure		-Excess carbon deposit in the cylinder head. -Combustion chamber or the top of piston	Clean the excess carbon deposit.
Low Pressure	Cylinder/Piston	-Wear and tear on piston or cylinder	-Rehabilitate or replace piston (cylinder).
Excess Fumes from Muffler		-Cylinder, piston ring breaks down. -Improper installation of piston-ring. -Wear and tear on the piston or the inner wall of the cylinder	-Replace cylinder/piston or piston ring. -Reinstall piston ring. -Replace piston/cylinder or only replace the cylinder.
Cylinder Overheat		-Leakage of cooling system.	Locate leakage and seal
Engine lacks High Speed		Cylinder block loses pressure, wear or tear in cylinder block	-Excess carbon deposit. -Shortage of lubricant or use of improper engine oil.

Common Faults and Trouble Shooting of Drive Section

Symptom	Trouble Location	Reason	Trouble Shooting
Engine Stops Working	Electricity starts transmission system	<ul style="list-style-type: none"> -Unidirectional starting clutch break down. -Electric starter break down, start system faultly 	<ul style="list-style-type: none"> -Replace or repair the clutch. -Replace the gear of electric starter
Motor Start Running Slowly	Motor start	<ul style="list-style-type: none"> Battery voltage too low. -Improper connection of the cable to batteries. -The cable of motor starter improper connection. 	<ul style="list-style-type: none"> -Replace or recharge the battery. -Reconnect the cable.
Motor Start Not Running		<ul style="list-style-type: none"> -Improper installation of crankcase. -Improper installation of terminal connection. -Motor starts fault. -Unidirectional starting clutch or electric start gear breakdown. 	<ul style="list-style-type: none"> -Reconnect. -Reassemble. -Check and maintenance. -Replace the unidirectional starting clutch or electric start gear.

Common Faults and Trouble Shooting of Circuit Section

Symptom	Trouble Location	Reason	Trouble Shooting
Engine Does Not Start	Spark Plug	-Excess carbon deposit	-Clean carbon deposit or replace
	Ignition coil	-Damage	-Replace
	Battery	Low voltage	-Recharge battery or replace
	Nozzle	Impeller jet stuck	-Clean blockage
	Gasoline pump	stuck	-Replace
Unstable engine idle	Leaking oil Throttle assembly	- Joint loose	-Tighten joint
Motor Starter Out of Gear	Key plug	-Damage	-Replace keys
	Controller	-Fuse damage	-Replace
	Battery	-Under voltage	- -Recharge battery or replace
Starter Relay Could Not Stop	Controller	-Damage	-Replace

Symptom	Reason	Trouble Shooting
The Motor is Operational, But The Engine Does Not Rotate	-Leakage of cooling system	-Clean blockage -Seek out the leakage, locate and seal it.
Generator Overheating , Low Power Performance	-Component of water pump or combination break down	-Replace referencing components.

SURFTEK SURFBOARDS

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