



### CONTENTS

1.	INTRODUCTION	2
2.	PRODUCT IDENTIFICATION AND CERTIFICATION	3
3.	SPECIFICATIONS AND CERTIFICATES	4
	BOAT DESIGN AND TERMINOLOGY	
5.	BOAT DESCRIPTION AND SETUP	7
	5.1.1 HULL AND COCKPIT IN MODEL 475 EVO DC (DOUBLE CONSOLE)	
	5.1.2 HULL AND COCKPIT IN MODEL 475 EVO TILLER	
	5.2. DRIVER'S CONSOLE SETUP	12
	5.2.1 CONTROL PANEL FOR BOAT'S ELECTRONIC EQUIPMENT.	13
	5.3. PASSENGER'S CONSOLE SETUP.         5.4. AUTOMATIC BILGE PUMP	
	5.5. LIVEWELL SETUP AND OPERATING PRINCIPLE	
	5.6. FULL CANVAS ENCLOSURE: INSTALLATION AND USE.	
	5.7. FUEL SYSTEM	29
6.	POWER LAYOUT	
	6.1. LOCATION AND ASSIGNMENT OF ELECTRIC FUSES IN MODELS 475 EVO DC	
	6.2. LAYOUT OF CABLE CHANNELS IN MODELS 475 EVO DC	
	6.3. ELECTRIC CIRCUIT DIAGRAM IN MODELS 475 EVO DC	
	6.5. LAYOUT OF CABLE CHANNELS IN MODELS 475 EVO TILLER	
	6.6. ELECTRIC CIRCUIT DIAGRAM IN MODELS 475 EVO TILLER	
7.	SAFE OPERATION	38
	7.1. TRAILERING	
	7.2. BOAT LOADING	
	7.3. OPERATING THE BOAT	
	7.3.1. TRANSITION INTO PLANNING MODE	
	7.3.2. TRIM ANGLE ADJOSTMENT	
	7.3.4. TOWING	
	7.3.5. TOWING A SKIER	48
	7.3.6. ANCHORING	
_	7.4. MANEUVERS, NAVIGATION, WEATHER	
8.	BOAT CARE AND STORAGE ON THE WATER AND IN THE ENG OFF-SEASON	
	8.1.       STARTING BATTERY CARE         8.2.       FUEL SYSTEM CARE	
	8.3. STEERING SYSTEM CARE.	
	8.4. CARPETING CARE	
	8.5. VINYL AND SEAT COVERING CARE	
	8.6. TRAVEL COVER AND CANVAS ENCLOSURE CARE	
	8.7.       WINDSHIELD CARE	
	8.9. LOCKERS. MAINTENANCE COMPARTMENTS AND LIVEWELL CARE	
	8.10. STAINLESS STEEL AND PLASTIC PARTS CARE.	
	8.11. BOAT OPERATION AND CARE WHEN USED IN SALT WATER	59
	8.12. GALVANIC CORROSION	61
	8.13. WINTER STORAGE AND LAYING UP	
0	8.14. HOISTING A BOAT	
9.	9.1. SAFETY RECOMMENDATIONS	
10	9.1. SAFETY RECOMMENDATIONS	
10	.WARRANTT	0/

## 1. INTRODUCTION

Dear owner of a Finval motorboat. Thank you for purchasing our craft. We sincerely hope that you will enjoy its operation.

We recommend that you carefully read this manual before you start operating the boat. This manual contains information about the set-up of the boat, its systems and components, as well as operation and maintenance recommendations.

This manual is not a detailed repair or troubleshooting guide. If you encounter problems, contact your nearest authorized dealer or manufacturer. You will find the necessary contact information on the manufacturer's website at www.finvalboats.com. For repairs, contact only the facilities recommended by the dealer or the manufacturer.

Any modernization affecting the boat safety should only be done with the written permission of the manufacturer.



In its last section the manual contains information about the warranty obligations of the boat manufacturer. Read carefully the warranty conditions and terms to prevent misunderstandings during operation.



In case of a boat modernization without the manufacturer's approval, or installation of an excess power engine, the manufacturer shall not be responsible for the safety during operation and the vessel's integrity, and also terminates its warranty obligations.



In pursuance of the continuous improvement policy the technical specifications and the configuration of Finval motor boats can be subject to change without prior notice.

# 2. PRODUCT IDENTIFICATION AND CERTIFICATION

All our boats have passed the mandatory relevant certification with state control bodies; therefore, each hull manufactured at our factory is assigned a unique identification number (CIN-code). You will need this number to register the boat with authorized state bodies, as well as for taking other necessary legal measures.

You will also need this number in case of contacting the manufacturer for technical service and/or repair work, warranty service, and for other matters concerning your boat. Always indicate it when contacting Finval Customer Service for prompt identification - this will speed up the resolution of your issues.

You can write your CIN-code here for convenience:

Also, on each boat that has a certificate of conformity, a nameplate is affixed that contains information about the maximum passenger capacity and carrying capacity of the vessel, the maximum output of the propulsion unit and other parameters. Usually, it is located in the stern of the vessel or in the cockpit.

In terms of design, according to International Classification, Finval boats can be referred to design category C and D. The vessel's category determines the rules for its use:



#### Category C - coastal waters

Vessel is designed for operation in coastal waters, estuaries, bays, rivers and lakes with maximum wind force about 6 and wave height of 0.8-1m.

#### Category D - inland waters

Vessel is designed for operation in small lakes, rivers and channels with a wind force of up to 4 and wave height of about 0.5 meters.

### 3. SPECIFICATIONS AND CERTIFICATES

Overall length
Beam
/inimum cockpit width 1.93 m
ransom height
Approximate draft
Deadrise at transom
Veight (boat only) 510 kg
/laximum load 600/635** kg
ngine 60-100 hp
* - depending on the configuration of the bow platform ** - in 475 Evo Tiller model

Hull material AIMg 4.5Mn (5083)				
Aluminium thickness (bottom/transom)				
Aluminium thickness (boards) 3 mm				
Persons capacity				
Fuel tank				
Livewell				
Rod storage (quantity/length) 4/2.9 m				

The boat was produced in accordance with the Rules for the Classification and Manufacture of Small Vessels, conforms to the design BM35.475. and passed as ready for service.

Your boat has CE certification by Dutch Sertification Institute, Notified Body for certification of Recreational Crafts to Directive 2013/53/EU (RCDII) under number 0613.



DUTCH CERTIFICATION INSTITUTE Certification date: 06-11-2020 Certificate number: DCI-CE-2013/53/EU-2341\*00, DCI-CE-2013/53/EU-2340\*00

Inspection module: B



## 4. BOAT DESIGN AND TERMINOLOGY

Finval boats belong to Deep-V class of boats, the contours of which provide high dynamic characteristics at full speed. These are open-type boats with a deadrise from 14 to 19 degrees (except for the Rangy lineup).

The hull is made of high quality marine aluminum AlMg 4.5 Mn (5083). The internal cavities are filled with two-component polyurethane foam, which provides a buoyancy margin and additional safety of the vessel. A kicker is mounted on the hard transom of the stern of the boat.

Your Finval has a bilge pump installed, which automatically activates if water enters the bilge. It will activate even if the boat's on-board power switch is off.







Fig. 1.

- 1 overall length of the boat
- 2 cockpit
- 3 port
- 4 recess
- 5 beam
- 6 transom
- 7 starboard

- $\boldsymbol{8}$  sternward
- 9 forward
- 10 fender
- 11 stern platform
- 12 bow platform
- 13 freeboard

#### 14 - draft

- 15 keel
- 16 upper works
- 17 water-line
- 18 propeller screw
- **19** ring
- 20 gunnel

### 5. BOAT DESCRIPTION AND SETUP

#### 5.1.1 HULL AND COCKPIT IN 475 EVO DC (DOUBLE CONSOLE) MODEL



Fig. 2.1. Functions of main components of models 475 Evo DC.





Fig. 2.2. Functions of main components of models 475 Evo DC.

- 1 bow locker
- 2 large bow locker<sup>1</sup>
- 3 livewell<sup>1</sup>
- 4 glovebox of passenger's console
- 5 cockpit locker
- 6 cockpit locker
- 7 rod lockers
- 8 additional row of seats (SP configuration only)
- 9 jump seats and lockers for items underneath (JS configuration only)
- 10 stern locker (JS configuration only)<sup>2</sup>
- 11 large stern locker, regular place for keeping the canvas enclosure
- 12 base for installing a seat in bow and stern platform
- 13 gas tank filler neck
- 14 place for installing anchor top light
- 15 mooring cleats
- 16 navigation lights
- 17 cup holder
- 18 bow ring
- 19 livewell water drain hole
- 20 bilge water discharge hole

- 21 stern ring
- 22 crecess scupper holes
- 23 anticorrosive anodes
- 24 livewell water intake
- 25 bilge drain plug



<sup>1</sup> livewell position may vary depending on the bow platform cofiguration, see fig. 3.



Fig.2.3. Hidden elements of the boat.

- 26 bilge pump
- 27 53 liter fuel tank
- 28 livewell water intake pump
- 29 onboard power switch

- 30 power bus
- $\boldsymbol{31}$  position for installing a starter battery
- $\mathbf{32}$  onboard power switch button

Your Finval can be equipped with one of two bow platform configuration options. Option 1 with a locker located closer to the bow and a 90-liter livewell located closer to the consoles. Option 2 has a 65-liter livewell in the center of the bow platform and a large locker located closer to the consoles.



Fig. 3. Bow platform configuration options

#### 5.1.2 HULL AND COCKPIT IN 475 EVO TILLER MODEL







Fig. 4. Functions of the main components of model 475 Evo Tiller



- 1 socket for installing removable navigation lights
- 2 bow locker
- 3 bow locker
- 4 90-liter livewell
- 5 niche under bow platform/large locker<sup>1</sup>
- 6 cockpit locker regular place for installing engine's traction batteries
- 7 cockpit scupper holes
- 8 rod locker
- ${\bf 9}$  command console
- 10 seat base
- 11 large stern locker
- 12 mooring cleats

- 13 gas tank filler neck
- 14 place for installing anchor top light
- 15 bow ring
- 16 livewell water drain hole
- 17 bilge water discharge hole
- 18 stern ring
- 19 recess scupper holes
- 20 anticorrosive anodes
- 21 livewell water intake
- 22 bilge drain plug
- 23 back navigation light



<sup>1</sup> Depending on configuration

### 5.2. DRIVER'S CONSOLE IN 475 EVO DC MODELS



Fig. 5. Driver's console.

- 1 Place for installing engine controls gauges
- 2 12V power outlet
- 3 Control panel for boat's electric equipment
- 4 Driver's console shelf
- 5 In-built cupholder<sup>1</sup>
- 6 Onboard power switch button

<sup>1</sup> Not available if a set-in engine commander is installed



### 5.2.1 CONTROL PANEL FOR BOAT'S ELECTRONIC EQUIPMENT



Fig. 6. Key functions of main electric control panel.

- 1 Turning on bilge pump
- 2 Turning on livewell water supply or livewell timer
- 3 Turning on navigation lights or anchor top light
- 4 Backup key
- 5 Backup key





#### 5.3. PASSENGER'S CONSOLE SETUP IN 475 EVO DC MODELS



Fig. 7. Passenger's console setup

- 1 glovebox
- 2 12V power outlet
- 3 place for installing a stereo
- 4 passenger's console shelf
- 5 glovebox with a lock
- 6 cockpit lighting (optional)
- 7 in-built cupholder
- 8 handrail
- 9 wicket door hold-open latch



The manufacturer reserves the right to make changes to the design and configuration of the boat in order to improve their technical characteristics without prior notice.

### 5.4. COMMAND CONSOLE SETUP IN 475 EVO TILLER MODEL



Fig. 8. Command console.

- 1 place for installing engine controls gauges
- 2 control panel for boat's electric equipment
- 3 USB 5V2A power outlet
- 4 glovebox, location of the onboard power switch button, and the fuse box
- 5 pull-out shelf



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#### 5.5. AUTOMATIC BILGE PUMP



On Finval boats, an automatic bilge pump is installed, which activates even when the on-board power switch is off. To activate forced water discharge from the bilge, press up and hold the bilge pump key, which is located on the driver's console.



Regularly check the bilge pump and its automatic sensor for serviceability. Clean the pump and float from sand and debris, check the float stroke, which accounts for turning on the pump. If you notice a malfunction of the bilge pump, contact your dealer or the nearest authorized service center.



If you leave the boat on the water unattended for a long time, make sure that no water can get inside - neither overboard because of rolling swell, nor due to the lack of tent or damage thereof.



If the boat is stored on a trailer, we recommend that you ensure that the bilge drain plug (see fig. 4 on page 10) is completely unscrewed. This will eliminate the likelihood of rainwater accumulation in the event that the travel cover, for some reason, is damaged.



Before launching the boat do not forget to completely tighten the bilge drain plug!

Your Finval is equipped with a 90/65-liter livewell<sup>1</sup>.



Fig. 9. Functions of main elements of livewell structure.

- 2 Water supply mixer valve cock
- 3 Overflow tube
- 4 Livewell water discharge

Livewell's operating principle is as follows. The Pump 1 installed in the aft hold delivers water through the Valve Cock to the livewell (see Fig. 10 on page 18). When the livewell is completely filled up, the excess water gets back overboard through the Overflow tube 3. Thus, a continuous supply of fresh water to the livewell is maintained. To save battery power during long moorage periods, we recommend using the timer mode. When the timer mode is activated, the supply of outside water will be carried out for 30 seconds with 3-minute intervals.

To drain the water from the livewell, unscrew the Overflow tube 3.



<sup>1</sup> Depending on bow platform's configuration.



Fig. 10. Livewell's operating principle.

- 1 Pump for outside water supply to livewell
- 2 Water supply valve cock
- 3 Overflow tube
- 4 Water discharge from livewell



During first use, adjust the flow rate of water supply to the livewell. To reduce the water pressure, turn the valve cock clockwise. To increase the pressure, turn the valve cock counterclockwise.



Fig. 11. Adjusting the water flow rate.



To avoid damaging the outside water pump, the water supply valve cock must be open.



To avoid damaging the livewell water supply pump, do not use it while gliding the boat



### 5.7. FULL CANVAS ENCLOSURE<sup>1</sup>: INSTALLATION AND USE

Your Finval can be equipped with a full canvas enclosure made of high-quality marine-grade fabric with windows made of transparent polyvinylchloride fabric. It can be stored in the large stern locker.



Finval full canvas enclosure consists of the following elements:



Fig. 12. Components of full canvas enclosure.

- 1 high top 2 - side curtains
- 3 aft curtain 4 - front curtain

5 - folding frame of stainless steel

Additionally, your full canvas enclosure can be equipped with side curtains with mosquito nets.



<sup>1</sup> Additional option, only in models with full glazing

The procedure for installing a canvas enclosure is as follows:

Take out a cover with a full canvas enclosure and put it on the aft platform.



Remove the cover and lay out the posts.





Short posts should be placed underneath the long ones.



Then put together and install the frame: pull out four pins from the mounts - two pins on each side.





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First mount the long posts on each side. Use the mounts located closer to the bow.



Then lift the frame secured to the long posts and secure the short posts.



To avoid losing the pin, it should be inserted from the inside of the boat.



When a frame is secured, you can fit up the high top. First unwrap the cloth, then stretch it to the corners of the frame and zip it up along the edges<sup>1</sup>.



<sup>1</sup> When folding back the tent, unzip it on bow angles and wrap the edges of the fabric inward. This will allow to fold it back more tightly.



We recommend folding up a front curtain above the wicket door at once and fasten it with transparent retention straps.



Stretch the cloth and fasten the tent buttons on the top edge of the windshield frame.



First on the right side, then close the door and fasten the tent buttons on the left side.



High top is installed. You can now use it to escape the sun in hot day.



If you need to completely hide from rain and wind, you should fasten two transparent side curtains and aft curtain. First, fasten only the upper part of the side curtains with a zipper.





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Then fasten the aft curtain to the high top from the ends towards the central strap. Then fasten the lower part of the aft curtain with buttons along the whole stern perimeter, from the ends to the middle.



Fasten the lower side parts of the aft curtain with buttons to the boards.



Use the buttons to fasten the lower part of the side curtains sternward from the bow.



Fasten the side curtains and aft curtain.



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If necessary, you can cover the bow platform from rain. Fasten the bow cover starting from the bow plate and zigzaging towards the cockpit, button by button, alternately from each side.



Fasten the buttons in the lower part of the window frame, from the bow deck side.



Shut the wicket door and fasten the central part of bow cover to the wicket door from the inside.



Unfold the front curtain above the wicket door and fasten it with a zipper.



To ensure that canvas enclosure maintains its protective properties throughout the entire warranty period, please carefully study and strictly follow the recommendations to its care, which are described in the section 8.6.



Always make sure that the full canvas enclosure is well dried after it is used in rain or fog. If you fold up a wet tent and put it into the locker, it can be affected by microflora and soon be unfit for use, it will have an unpleasant smell and bad look. ENG

29



Do not drive at maximum speed with the full canvas enclosure installed. Strong wind resistance can cause its damage.

#### 5.8. FUEL SYSTEM

Your Finval is equipped with an in-built 53-liter tank. Refueling and venting the fuel tank is carried out through the filler neck



Fig. 13. Refueling.

Unscrew the cap of the neck of the fuel tank. It is located on the port side in the stern of the boat. Insert the filler gun, ensuring its reliable contact with the neck of the fuel tank. This will prevent a static electrical discharge. Always refuel in good light. Fuel spills may not be visible in low light or in the dark.



To avoid serious injuries that may result from a fire or explosion, do not overfill the fuel tank. Do not try to continue refueling after the first automatic stop of fuel supply. If you faced the need to refuel the boat with fuel from a canister, please use special tools that prevent accidental spills of fuel. For more information please contact the manufacturer or the nearest dealer.



Under certain weather conditions, condensation may form inside the fuel tank. To prevent water from entering the engine, we recommend installing a fuel filter separator on the boat. To resolve this problem, contact the manufacturer or the nearest authorized Finval dealer.



Before operating the boat, the fuel system must be carefully inspected and, if necessary, repaired. Do not operate the boat, knowing that you have a problem with the fuel system. For troubleshooting, please contact the manufacturer or the nearest authorized Finval dealer.



If fuel is spilled onto the painted or pasted surface of the boat during refueling, wipe the area with a dry cloth or paper towel. This will prevent damage to the decorative coating of the boat.



If you seem to smell some fuel in the boat during operation, immediately contact the manufacturer or the nearest authorized Finval dealer. If there is a smell of fuel, smoking, the use of open fire and electrical appliances in the boat is strictly prohibited.

## 6. POWER LAYOUT

The manufacturer fully installs, after testing, the entire electrical system and its components on the boat. Preparations are also being made to connect various navigation, lighting, mooring, musical and other devices that can later be installed on the boat.

If you want to make changes to the standard electrical circuit by installing additional equipment yourself, the manufacturer will no longer be responsible for its operation. Entrust this work only to specialized professionals, contact your nearest authorized Finval dealer or the manufacturer for assistance.

Depending on the power of the engine, as well as the installation of additional equipment (electric motor, anchor winch, navigation equipment and echo sounders) choose the appropriate type, size and power of the batteries, as well as the cross-section of wires for connecting them. Perform timely maintenance and charging of batteries, avoid storage of a boat with discharged batteries. This will lead to their fast failure.



When replacing, always install a fuse suitable for the type and rated current. Do not try to install homemade "bugs" instead of fuses.

#### 6.1. LOCATION AND ASSIGNMENT OF ELECTRIC FUSES IN MODELS 475 EVO DC



Nº	Power	Assignment	Location
1	5A	Bilge pump fuse	Blade Fuse Block Holder Box in the glovebox
2	5A	Livewell timer and water supply pump fuse	Blade Fuse Block Holder Box in the glovebox
3	5A	Navigation and Anchor lights fuse	Blade Fuse Block Holder Box in the glovebox
4	5A	Bilge pump switch fuse	Blade Fuse Block Holder Box in the glovebox
5	15A	12V power outlets fuse	Blade Fuse Block Holder Box in the glovebox
6	20A	Onboard power switch fuse	Blade Fuse Block Holder Box in the glovebox



The unit for ten FT8 midi fuses is located in the upper glove compartment of the command console. Next to each fuse is an LED indicator of serviceability. They start to glow when one of the fuses does not work.

At the bottom of the unit, there is room for six spare fuses.



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33

### 6.2. LAYOUT OF CABLE CHANNELS IN MODELS 475 EVO DC



Num- ber	Corrugated conduit, Ø mm	Access	Assignment
1-1	25	Under the deck of the starter battery locker $ ightarrow$ In the cockpit locker	For connecting a 3-channel charger or alternator
2-2	25	From the cockpit locker $ ightarrow$ In the bow plate	For connecting electric motor power supply
3-3	40	From the bow plate —> Under the driver's console	Cable channel with two free wires 6mm <sup>2</sup>
4-4	40	From the starter battery locker	For connecting GPS-antenna with a built-in compass
5-5	16	Under the driver seat — Under the driver console	For seat heater installation
6-6	16	Under the passenger seat —> Under the passenger console	For seat heater installation
#### 6.3. ELECTRIC CIRCUIT DIAGRAM IN MODELS 475 EVO DC

#### COMPONENTS LIST

Nº	Legend	Name	Q-ty	Note
1	SB	On-board power switch button	1	
2	F1	Bilge pump fuse	1	5A
3	F2	Livewell timer and water supply pump fuse	1	5A
4	F3	Navigation and Anchor lights fuse	1	5A
5	F4	Bilge pump switch fuse	1	5A
6	F5	12v power outlet fuse	1	15A
7	F6	Onboard power switch control fuse	1	20A
8	F7,F8,F9,F10	Spare fuses	4	
9	GB	Power battery (optional)	1	12V
10	M1	Bilge pump	1	
11	M2	Livewell water supply pump	1	
12	K1	Onboard power switch	1	
13	SA1	Bilge pump power key	1	
14	SA2	Livewell pump power key	1	Manual, automatic mode (with timer)
15	SA3	Navigation lights or anchor top light key	1	
16	SA4	Free key	1	
17	SA5	Free key	1	
18	SL1	Bilge pump float switch	1	
19	EL1	Top Anchor light	1	
20	EL2-EL4	Navigation lights	3	EL2 — for EU only
21	XS1, XS2	12V power outlet	2	
22	BA1, BA2	Speaker (optional)	2	
23	XT1, XT2	Terminal bus	2	
24	A	Livewell timer	1	
25	Seat heater	Seat heater (option)	2	
26	FLS	Fuel level sensor	1	
27	*	A white wire is drawn in blue on the diagram	-	
28	RES	Spare wires	3	





#### 6.4. LOCATION AND ASSIGNMENT OF ELECTRIC FUSES IN MODELS 475 EVO TILLER



Nº	Power	Assignment	Location	
1	5A	Bilge pump fuse	Blade Fuse Block Holder Box in the glovebox	
2	5A	Livewell timer and water supply pump fuse	Blade Fuse Block Holder Box in the glovebox	
3	5A	Navigation and Anchor lights fuse	Blade Fuse Block Holder Box in the glovebox	
4	5A	Bilge pump switch fuse	Blade Fuse Block Holder Box in the glovebox	
5	5A	USB power outlet	Blade Fuse Block Holder Box in the glovebox	
6	20A	Onboard power switch fuse	Blade Fuse Block Holder Box in the glovebox	
7	15A	12V power outlet fuse	In the bow deck	



The unit for ten FT8 midi fuses is located in the upper glove compartment of the command console. Next to each fuse is an LED indicator of serviceability. They start to glow when one of the fuses does not work.

At the bottom of the unit, there is room for six spare fuses.

#### 6.5. LAYOUT OF CABLE CHANNELS IN MODEL 475 EVO TILLER



Num- ber	Corrugated Conduit, Ømm	Access	Assignment
1-1	25	From the cockpit locker $ ightarrow$ In vertical cover between niche and livewell	
2-2	25	From the cockpit locker $\rightarrow$ To the big locker at the bow platform	
3-3	25	From the cockpit locker -> To the bow platform	
4-4	25	From the cockpit locker -> To the bow platform	
5-5	25	From the cockpit locker -> To the command console	
6-6	25	From the cockpit locker → In the bilge	
7-7	16	From the console $\rightarrow$ To the vertical cover element under the gunwale Starboard ligh	
8-8	16	From the console -> To the vertical cover element under the gunwale Port lighting	
9-9	40	From the console → To the bow platform	
10-10	50 (3 pcs.)	From the bilge $ ightarrow$ Under the horizontal cover element of the port	
11-11	50 (3 pcs.)	From the bilge $\rightarrow$ Under the horizontal cover element of the starboard	
12-12	40	From the bilge $ ightarrow$ To the command console	
13	16	From the driver seat $ ightarrow$ To the command console	

#### 6.6. ELECTRIC CIRCUIT DIAGRAM IN MODEL 475 EVO TILLER

#### **COMPONENTS LIST**

Nº	Legend	Name	Q-ty	Note
1	SB	On-board power switch button	1	
2	F1	Bilge pump fuse	1	5A
3	F2	Livewell timer and water supply pump fuse	1	5A
4	F3	Navigation and Anchor lights fuse	1	5A
5	F4	Bilge pump switch fuse	1	5A
6	F5	USB power outlet fuse	1	5A
7	F6	Onboard power switch control fuse	1	20A
8	F7,F8,F9,F10	Spare fuses	4	
9	F11	12v power outlet fuse	1	15A
10	GB	Power battery (optional)	1	12V
11	M1	Bilge pump	1	
12	M2	Livewell water supply pump	1	
13	K1	Onboard power switch	1	
14	SA1	Free key	1	
15	SA2	Cockpit lighting key (option)	1	
16	SA3	Navigation lights or anchor top light key	1	
17	SA4	Livewell pump power key	1	Manual, automatic mode (with timer)
18	SA5	Bilge pump power key	1	
19	SL1	Bilge pump float switch	1	
20	EL1	Anchor top light	1	
21	EL2-EL3	Navigation lights	2	EL2 – for EU only
22	XS1	USB power outlet	1	
23	XS2	12V power outlet	1	
24	XT1-XT3	Terminal bus	3	
25	A	Livewell timer	1	
26	FLS	Fuel level sensor	1	
27	LW	Livewell	1	
28	FT	Fuel tank	1	
29	Seat heater	Seat heater (option)	1	
30	*	A white wire is drawn in blue on the diagram		





## 7. SAFE OPERATION

#### 7.1. TRAILERING

Proper positioning of the boat hull on the trailer ensures its safe and easy transportation, smooth discharge from and loading on the trailer even in bad weather. Improper transportation can cause damage to the boat.



Contact your Finval dealer in your area. He will help you choose the trailer that is most suitable for your boat.

Make sure that your vehicle's tow hitch can handle the load. The weight on the trailer must be evenly distributed. It can be checked by measuring the load on the trailer hitch. An ideal weight is 35-50 kg.



Fig. 14. Weight distribution on a trailer.



Excessive weight on the drawbar can cause the front wheels of the towing vehicle to tear off the road and, as a result, losing control. Lack of weight on the drawbar can lead to sheering of the trailer or a fishtail effect (slowdowning of the trailer due to swinging from side-to-side).



Swinging and sheering of the trailer are especially dangerous at high speeds, when the trailer can get out of control. The speed of the trailer with the boat should not exceed 70 km/h.

To securely fasten your Finval to a trailer, use special tie straps of the appropriate strength. For this purpose special rings are provided: two on the transom and one on the bow of the boat.



Fig. 15. Fastening a boat to a trailer using tie straps.

#### 7.2. BOAT LOADING

Maximum load at which you can safely handle your motor boat is indicated on the manufacturer's nameplate. It is usually attached in the recession or cockpit of the boat.





Fig. 16. Buildersplates



Fig. 17. Buildersplate position: a - EU countries; b - Ukraine, Russia.

When loading a Finval motor boat, be sure to stay within the permissible payload range. Try to distribute the load evenly and as low as possible. Always fasten objects so that they do not move or slip when moving on water.



Overloading or improper weight distribution can make the boat uncontrollable. Bad weather or rolling swell can significantly reduce declared payload. Overloading the boat is a violation of the rules of navigation.





When on the move, passengers should not sit on the bow platform, walk on the cockpit or sit on the gunwale. All passengers must take their places in specially equipped seats in the main cockpit of the boat.

- Balanced load ensures the best performance.
- Bow part overload makes it difficult to enter the planning mode

- After part overload contributes to porpoising (the bow of the boat starts bouncing up and down) and the wave running up the aft deck when boat abruptly stops.





Fig. 18. Passengers' position in the boat.



#### 7.3. OPERATING THE BOAT

Every boat driver needs some basic skills to operate his boat. You can obtain this knowledge as result of the training with professionally trained instructors or after taking relevant courses. Sufficient practice and the correct organization of each taking out of the boat will allow you to feel confident and safe when driving the boat.

In order to legitimately operate the boat, you will also need to take appropriate training in order to obtain an official certificate giving the right to operate the boat, namely a boatmaster's certificate. Information on such courses, and the rules for obtaining a boatmaster's certificate of the relevant category can be found on the Internet or you can check it with our dealer.

#### 7.3.1. TRANSITION INTO PLANNING MODE

Finval boats belong to planing crafts, which radically distinguishes them from displacement vessels. They are designed to glide along the water surface as efficiently as possible to save fuel - this effect is called "planning". Your craft, gradually accelerating, will go through several stages of entering the planning mode:

- The bow of your boat will rise, the stern will be lower;
- The wave that the bow cuts will begin to move sternward;
- With a further increase in engine speed the boat will accelerate and rise on the wave crest, pushing the boat out of the water;
- The speed will increase, the bow will drop, and the stern will rise slightly;
- With levelling of the hull, the boat will begin to glide over the water surface, entering the planning mode.

Start the boat's engine and, when entering deep water, increase the engine speed (in accordance with the steps described above). At the start, it is recommended to set an engine in a position that maximally presses the bow to the water (the engine is maximally pressed to the transom). Moving in a straight line and gradually increasing power, you will enter the planning mode. After that, you can push up the trim, slow down a bit and reach cruising speed (optimal for fuel consumption). This is because when entering the planning mode, the hull resistance decreases and the motor spends less effort (and therefore fuel) to accelerate the boat.

#### 7.3.2. TRIM ANGLE ADJUSTMENT

Modern kickers of large and medium power are usually equipped with electrohydraulic trim angle adjustment system (Trim).

Trim angle is controlled using the buttons (Up & Down or  $\uparrow \& \downarrow$ ) on a commander's handle. Trim angle affects speed, fuel economy and boat handling.



Fig. 19. Trim angle adjustment.

- 1 large trim angle bow too high, it takes more time to reach planing speed, boat jumps out of the water (porpoising)
- 2 small trim angle bow too low, boat easily reaches planing speed, but cannot achieve best speed performance
- 3 optimal angle fuel economy at cruising mode, maximum speed

You can control the trim angle using a special device (trim level), which can optionally be installed on the captain's console.





Before entering a sharp turn, it is

recommended to lower the motor slightly (press it closer to the transom). This will increase the controllability of the boat.



When moving in a rolling swell, we recommend lowering the motor slightly (press it closer to the transom). Thus, the boat will cut the wave with its nose and will not be jumping out of the water too much. This will increase the driving comfort.





Before you start moving, fasten a safety pin to your clothes or a safety vest.

#### 7.3.3. MOORING

When mooring or anchoring, use only mooring cleats as shown. Other parts of the boat may not withstand the load when mooring. Use fenders large enough to prevent friction between the boat and the berth.



Before mooring, determine the wind direction and the strength of the current. Approach the berth at low speed or at idle. If necessary, use reverse during maneuvering to control direction and speed.



Do not moor the boat stern against the wind so that high waves do not beat against it.



Do not use your hands or other parts of the body to soften the boat's touch on the berth. It can be dangerous to your health.



Slowly approach the berth at an angle of 30-45°. Fasten the bow to the berth. Next, turn the steering wheel toward the berth and put the engine into reverse to slowly move the stern towards the berth. Then secure the stern.

*Fig. 20. Mooring in the wind or current from the berth.* 



the boat to move towards the berth. Try to use wind and/or current when mooring.

Maneuver slowly at a small angle and allow

*Fig. 21. Mooring in wind or current that are pushing the boat to the dock.* 



Fig. 22. Mooring in the absence of wind or current.

Slowly approach the berth at a small angle. Secure the bow. Turn the steering wheel toward the berth and engage reverse to slowly move the stern to the berth. Then secure the stern.





Fig. 23. Mooring schemes.



When you make your approach to mooring, take into account the direction of the wind, current, waves and wake from other vessels.

#### 7.3.4. TOWING

To tow another boat, use a strong towrope that has positive buoyancy. Always fasten the rope in such a manner that in the course of towing it is on the center axis of the boat (see figure 22). Start towing slowly, avoid jerking, and do not overload the engine. When towing a small boat, adjust the length of the towrope so that it floats along the downward slope of the wake. In narrow straits and at high waves, pull the boat closer to the transom to stabilize its movement. Firmly secure all equipment in the boat in case of turn turtle.



Fig. 24. Attaching a rope to a towing boat.

When towing, attach the rope only to the mooring rigs.

Do not make sudden maneuvers during towing, as this may cause one of the boats to turtle.



To tow a boat, do not use a removable ski pole

#### 7.3.5. TOWING A SKIER

Towing a skier, wakeboarder or a towable requires strict compliance with safety rules. The following guidelines will help you prevent accidents:

- Use a special removable ski pole/pylon;
- Tow the skier only in safe places, away from other boats and swimmers, and places free from underwater obstacles;



- Do not let a person waterski if he/she cannot swim. The skier must wear a safety vest.;
- Ask another person on board to observe the skier and inform the driver about the skier's hand signals (Fig. 22). The driver must fully pay attention to handling the boat and to the water area in front;
- Immediately attend to the fallen skier. In water, he may not be visible to other boaters;
- Approach a person in the water from the leeward side (windwards) and up the current;
- Stop the engine before you approach a person.



Fig. 25. Skier's sygnals.



Important note: according to the specifications, you can tow only one skier, or one wakeboarder, or one towable at a time.



A rotating screw can cut or damage a person in the water, resulting in serious injury or death. Turn off the engine before the skier enters the water and before lifting the skier aboard. Do not leave the engine on in neutral. Accidentally engaged gear can seriously injure the skier.

#### 7.3.6. ANCHORING

Depending on the conditions, you can use different types of anchors and ropes/ cables. Consult your dealer to select the right mooring/ anchoring equipment for your specific operating conditions. When anchoring, always pay attention to the direction of the wind, as well as the possible high and low tide (when operating the boat in the coastal sea strip). The length of the anchor rope is determined by the formula: Depth x 3.



Always make sure that nothing can damage your boat when the direction of the wind or current changes, or that there are no obstacles or objects which it can spontaneously hit.

#### 7.4. MANEUVERS, NAVIGATION, WEATHER

Never hurry or do anything without first having a clear plan and algorithm of actions. Remember that careless behavior on the water does not forgive mistakes. Insecure operation, drinking alcohol or taking drugs, ignoring weather forecast in the current water area at the time of entering the water, strong winds or gusts of wind, high waves and storms - these are the main causes of most accidents on the water. To derive maximum pleasure and comfort from using your boat, please follow the safety recommendations below. For more information on water safety rules, including fire safety, please check Section 10 of this Manual.



Before using (launching) your boat, make sure that:

- Bilge drain plug (Kingston) is tightly screwed.
- The boat, engine, navigation lights, bilge discharge pump and other equipment are in working condition, function normally and without interruptions.
- Passengers are familiarized with the basic rules of conduct on board, have properly taken their places on board, put their belongings and/or tackle so that they do not interfere with the control of the boat and cannot fall overboard.
- There is enough fuel in the tank, the batteries of your electric motor are fully charged (when using it as an electric anchor).
- The boat has enough life jackets and other rescue equipment for all passengers (lifebuoy ring, paddle/snap hook, first aid kit, etc.).
- The boat has a spare anchor, fenders and a sufficient amount of free cables / ropes.



You should constantly keep control over operating the boat and observe monitor/sensor/system readings. Never let go of the steering wheel and always warn passengers before maneuvering (make sure that they are sitting in their regular places at this moment). Do not make sharp maneuvers at high speed, until you learn all the capabilities of the boat!

With significant deterioration in weather conditions, always go from the water landward. You can enter a bay or canal to wait out a storm or thunderstorm, but never overestimate either the boat's capabilities or your own handling skills. You must be absolutely sure that you can solve any situation by driving a boat with a high wave and strong wind. Avoid shallow water with rolling swell, watch the countercurrent flow avoiding collisions with trees and other objects floating on the water surface, do not anchor on the vessel's way (use all the capabilities of the echo sounder and navigation systems).

Another danger can be posed by fog, when visibility is reduced to several meters, and the dark time of the day, when the visibility of approaching objects is limited. Always turn on the navigation and anchor lights where the situation and boating rules require. Where illumination does not allow to clearly distinguish



surrounding objects, use powerful spotlights and headlights when moving on water, if necessary. We also recommend that you install sound systems on your boats that can signal in emergency situations.



Better direct the boat towards the wave (upswell), if possible. However, remember that the direction of moving towards the wave depends on its size. Always avoid bringing the wave forward of the board!

We urge you to always follow the manufacturer's recommendations on the maximum boat carrying capacity, maximum passengers capacity and propulsion unit capacity. If the boat takes in water, this may be due to its improper operation or improper maintenance. Contact your nearest authorized dealer or the manufacturer.

Avoid anchoring under dangerous weather conditions and in strong wind; never steer the boat with stern towards the wave. If you use one anchor, it should be installed on the bow.

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# 8. BOAT CARE AND STORAGE ON THE WATER AND IN THE OFF-SEASON

Proper maintenance and regular care will help maintain the good condition of your Finval over many years of operation, prevent possible malfunctions and preserve the value of your investment.



Fire hazard! Rags that are wetted with acetone, cleaning fluids, fuels or other solvents can easily ignite. Never store wet rags on board your boat. Dispose of them properly on shore.

#### 8.1. STARTING BATTERY CARE

Regularly check mounting system to see if the batteries are firmly secured. On a regular basis check batteries for the signs of corrosion. If corrosion is evident, clean the terminals with baking soda and an aqueous solution using wire brush.

Batteries have a limited life and an ability to discharge. If you use the boat not so frequently and with long breaks, we recommend periodically recharging the batteries. It is also worth paying attention to the charge level of the starting battery if it is connected to powerful energy consuming devices (for example, chart plotters, echo sounders, sound amplifiers) for a long time with the engine turned off.

#### 8.2. FUEL SYSTEM CARE

When operating the boat, keep the fuel tank full to prevent moisture condensation. Contact your Finval authorized dealer or manufacturer annually to check the entire fuel system for leaks and damage.



Replace (at least once a year) the fuel filter separator on a regular basis.



Do not continue refueling after the first automatic dispense of the refueling gun. With increasing environmental temperature, gasoline tends to expand. This can lead to fuel spillage through the neck of the gas tank, and, as a result, damage to the decorative coating of the boat and fire.

#### 8.3. STEERING SYSTEM CARE

Regularly check the steering system for smooth, free and full travel. In addition, check the original self-locking nuts used to secure the steering link between the steering cable and the engine.

Contact your Finval dealer to check the steering system for lubrication, lack of play, and wear of steering system components at least once a year.

#### 8.4. CARPETING CARE

In your Finval, high-quality marine-grade carpeting is used that is resistant to abrasion and environmental influences. Due to the special manufacturing technology, hooks of fishing lures do not get stuck in it. Carpet care: vacuuming, water washing should be performed on a regular basis.

Most stains and molds are easily removed from the carpet. To remove mold, first check the cleaner on a small area of the carpet, which is in a hidden place, to determine the compatibility of the cleaner and carpet.



Attractants and flavors, which are usually sprayed onto baits while fishing, as well as some insect repellents, can damage the carpet. If such chemicals contact the carpet, we recommend that you quickly clean the tarnished surface with water.



When leaving the boat unattended for a long time, always allow the carpet to dry before covering the boat with a travel cover or canvas enclosure. This will prevent odor and mold.

#### 8.5. VINYL AND SEAT COVERING CARE

To look after vinyl and artificial leather seat covering, use standard detergents that are used for floor and furniture care at homes. We recommend using wet fabrics that effectively clean surfaces from dust, sand and dirt. Use special cleaning products to remove stains and other stubborn dirt.

Avoid using harsh detergents. Do not use solvents, bleaches, or abrasive cleaners, as they can cause permanent damage.



In your Finval marine-grade vinyl and artificial leather are used. They have undergone a special treatment to withstand ultraviolet sunlight and mold. However, as a precaution, we recommend that you keep the boat covered with a tent or under a canopy when not in use

#### 8.6. TRAVEL COVER AND CANVAS ENCLOSURE CARE

Clean the covers with water and standard fabric detergents, use brushes only for cleaning persistent stains. Rinse thoroughly with water and dry the covers after their use in rain, fog or thunderstorm.



It is not recommended to transport a boat with an assembled canvas enclosure at a speed of over 60 km/h. This may cause its damage.

Always make sure that the full canvas enclosure is well dried the after it is used in rain or fog. If you fold up a wet tent and put it into the locker, it can be affected by microflora and soon be unfit for use, it will have an unpleasant smell and bad look.





To extend the life of your cover, we recommend periodically soaking the fabric with special products that restore water repellent properties and effectively protect the fabric from UV radiation.

#### 8.7. WINDSHIELD CARE

If your Finval's windshield is made of acrylic:

- Wash off dirt from plexiglass with clean water only;
- After removing all abrasive dirt, use a liquid water-based detergent. Then, wipe the surface with a soft cloth, removing the remaining detergent with a clean cloth;
- We also recommend using a special antistatic agent for plexiglass cleaning and care. This product provides enhanced protection against the accumulation of static electricity. Due to the antistatic effect, dust settles more slowly on the acrylic surface;



DO NOT wipe dirt off dry glass;



DO NOT use powder cleaners with abrasive or aggressive fluids such as gasoline, carbon tetrachloride, acetone and thinner.

If your Finval is equipped with tempered glass, its cleaning and care are the same as for your car windows.



#### 8.8. DECORATIVE FILM AND PAINTED SURFACES CARE

Looking after painted surfaces or surfaces faced with film is similar to washing your car. Still, you should know some peculiarities in order to prevent damage to the film or paintwork.

We recommend washing the surfaces with a solution from water and detergent. You should choose soft cleaning products, NOT powder-based ones. After washing with soapy water, remove any remaining cleaning agent with plain water. Better let the boards dry out in the natural way. Use a soft cloth to speed up the drying process. The use of brushes when washing is not recommended to avoid damaging the coating.



Avoid gasoline or other fuel contacting the film. If this happened, remove the fuel from the surface as soon as possible. Mastic based on carnauba wax should not be applied to the film.

When using a high pressure washer, the water pressure should not be too strong. The hose must be kept at an angle of 45 degrees to the surface of the treated area. The maximum allowable washing time for the same area is 30 seconds.



Do not bring spray nozzles closer than 75 cm to the surface. Otherwise, you risk damaging the coating and losing the right to warranty repairs.



For stubborn stains, we recommend using citrus-based cleaners. After applying the cleaner, wash the area with soapy water and then with plain clean water.



The manufacturer's delivery package contains a repair roll of film and/or a small can of paint that were used for finishing on your Finval. They can be used to eliminate traces of mechanical impact on the coating, such as: chips, scratches, tears. Contact the manufacturer or an authorized Finval dealer for recommendations on their use.

#### 8.9. LOCKERS, MAINTENANCE COMPARTMENTS AND LIVEWELL CARE

Each time after fishing or recreation on the water, ventilate all internal closing spaces (lockers, technical compartments and livewells). Avoid accumulation of debris and moisture. This can further cause odors and appearance of areas of decaying microflora. After mooring the boat in the parking lot or to a berth for a long time, we recommend that you remove all the rugs from the lockers and leave the locker lids open.



Do not store fuel or flammable liquids inside lockers. Their ventilation is not intended for explosive vapors.

Livewells must be washed with fresh water or a soapy solution, cleaned from fish scales, sand and thoroughly dried.



Each time after their use during fishing check the operability of the livewell's drain and fill systems. If you find out that the water from the livewell is not withdrawn, or is withdrawn slowly, clean the hose and drain hole from dirt or contact an authorized dealer.

#### 8.10. STAINLESS STEEL AND PLASTIC PARTS CARE

To clean these surfaces, use liquid detergents and soft rags to clean the dirt. You can use shampoos with a special formula, but avoid using solvents or abrasive detergents. They can damage the surface, leave scratches and scuffs. To clean stainless steel products, you can use special mastics for metal and stainless steel to restore shine.



#### 8.11. BOAT OPERATION AND CARE WHEN USED IN SALT WATER

Your Finval's hull is made of high quality marine aluminum grade 5083/H111, recommended for use in salt water. However, due care should be taken in both salt and fresh water to avoid the electrolytic effect. Do not put brass, bronze or copper fittings in direct contact with aluminum.



To protect the boat against corrosion, your Finval is equipped with two removable anti-corrosion anodes. They are located at the bottom of the transom. To protect the boat against corrosion in salt water, zinc anodes are used; for fresh water, magnesium anodes are used. The manufacturer can equip the boat with both magnesium and zinc anodes. Contact your nearest authorized dealer or manufacturer to check which type of anodes are installed on your Finval and, if necessary, replace them.



Regularly check the condition of the anodes. If traces of dissolution are visible on the anodes and they have lost more than half of their original volume, we recommend replacing them with new ones. In order to avoid the appearance of corrosion spots after operating the boat in sea water, immediately rinse it with plenty of fresh water. Rinse the boat regularly, clean it of adhering water weeds and other organics, but first of all, you must make sure to clean all seams and joints from salt. Each time after using the boat in salt water, lift it out of the water, then thoroughly and abundantly rinse all external surfaces with fresh water, because the remaining salt can later have a harmful effect thereon.



If you store the boat on a trailer, thoroughly wash the boat, engine and a trailer after each use, especially after operating in salt water.



After each use of the boat in the sea, open the transom bilge stopper to drain the water that has not been pumped out by the automatic discharge pump.



To avoid corrosion spots, do not leave your Finval in salt water for a long time.



#### 8.12. GALVANIC CORROSION

The galvanic corrosion of aluminum boats primarily results from the electrolytic effects of dissimilar metals such as aluminum and brass. When two metals are immersed in a conductive liquid (water), an electric current is drawn and one metal corrodes. Corrosion intensifies when metals come into contact with salt water due to the high conductivity of salt water. Unprotected aluminum is very sensitive to galvanic effect and corrosion.

Galvanic effect can be accelerated by the presence of incident electric currents. Batteries or any other sources of electricity must be disconnected when not in use.

Due to the electrolytic effects of dissimilar metals, all fittings and fasteners attached to the aluminum hull must be made of aluminum or stainless steel. The use of nickel, brass or iron fittings and fasteners can lead to corrosion of aluminum if the fitting or fastener is in contact with aluminum. If nickel, brass or ferrous metals should be attached to aluminum, then the surfaces should be insulated with a non-absorbent pad, tape or sealant. Fasteners must be insulated with non-metallic sleeves, bushings and washers.

#### 8.13. WINTER STORAGE AND LAYING UP

To prevent damage to your boat, we recommend employing a set of measures to prepare it for winter storage.

- Unscrew the drain plug immediately after pulling the boat out of the water.
- Make sure to remove anything from the boat that can hold moisture and cause mold.
- Wash the boat thoroughly, dry all surfaces and internal spaces (lockers, compartments, livewells), drain water from all systems and hoses.
- Lift the bow of the boat to drain as much water as possible.
- Make sure to disconnect and remove all batteries, charge them and store in a dry, well-ventilated place at temperatures above 0°C.



DO NOT store batteries near heat sources, sparks, or flames.

- Empty the fuel tank completely or fill up a full tank. Each of these methods minimizes moisture condensation. You can add a gas stabilizer to the fuel if the tank is full. In this case, follow the recommendations of the manufacturer of this product.
- Make sure that the boat and all lockers are well ventilated.



Consult your kicker user manual for specific winter laying up instructions. Do not try to prepare the motor for the winter yourself without the appropriate knowledge and equipment.



If you live in an area with heavy snowfalls, we recommend storing the boat under a canopy.

#### 8.14. HOISTING A BOAT

Do not attach hoisting cables to bow and stern rings, mooring cleats. This can cause serious damage to the boat. Only use the slings specifically designed for hoisting boats.

If you need to get your Finval out of the water without a trailer, follow these guidelines:

- Use special slings for lifting boats instead of cables.
- In places where the slings are adjacent to the hull, put a soft cloth (for example, pieces of carpet) to protect the decorative coating on the boards of the boat;
- Use special box spreader beam to avoid lateral loads on the boat hull;
- Tie the cables to the bow and stern rings to control the boat swing while moving.
- Drain excess water from the bilge and the livewell.
- Do not start moving with people and luggage inside the boat.



Make sure all people are at a safe distance, then slowly lift the boat to the minimum height to make sure it is firmly held and properly balanced. If necessary, lower the boat down again and adjust the slings.





# 9. PERIODIC CHECKS

To reduce malfunctions and unplanned repairs of boat parts and components, we recommend conducting regular inspections of installed equipment.

#### **RECHARGEABLE BATTERIES**

Check the integrity of the batteries, terminal mounts, charge level. Check the tightness of the connections and add electrolyte to the recommended level (if using serviceable batteries), regularly recharge the battery (do not allow frequent full discharges).

#### **BILGE COMPARTMENT**

Do not allow water to accumulate in the bilge. If necessary, drain the bilge and make sure that you determine the exact cause of penetration of water before using the boat the next time.

#### BILGE WATER DISCHARGE PUMP AND A SWITCH

Check the technical compartments where the pumps are located (automatic discharge pump and livewell pump), clean them from accumulated dirt. Make sure that the switch is working properly, check the pump's operability. Clean and unblock drain holes and hoses, clean them using pressurized water. Check hose connections, especially those below the waterline, hull fittings, and the operation of valves, pump floats, and clappers.

#### FUEL CONNECTIONS

Check regularly for fuel odor. Check fuel connections for leaks and tighten up (or replace) hose clamps if necessary. Make sure that you completely eliminate any fuel leaks before starting the engine.

#### 9.1. SAFETY RECOMMENDATIONS

As the owner of a motor boat, you are responsible both for your safety and for the safety of your passengers. You are responsible for knowing and following the safety recommendations.

Your boat and equipment must be in a safe and good working condition. Regularly inspect the hull of the boat and its mechanisms, engine, rescue equipment.



Navigation rules and regulations require that you have on board and keep in good working order rescue equipment for all crew members, as well as safety equipment for your Finval boat. For a complete and up-to-date list of the required equipment and rescue aids, please check the local laws and instructions that apply in your country.

Do not drink alcohol or take drugs while boating. Driving a motor boat in a state of alcoholic intoxication, or under the influence of narcotic substances, is strictly prohibited by law and entails a significant fine. Alcohol and drugs affect your judgment, reduce your reaction time and your ability to operate the boat safely!

When refueling a boat, observe the maximum safety precautions (see Section 5.7. Fuel system).

When on board, always use individual rescue equipment in accordance with your local laws currently in force.



Carry passengers only in the cockpit of the boat in specially equipped places. Do not use the ladder to climb from the water, or the platform with a folding step<sup>1</sup>, when engine is on.

1 Additional option



#### FIRE SAFETY MEASURES

- Check fuel filter for leaks.
- Disconnect the terminals from the battery (-ies) when performing any kind of boat maintenance
- Electrical appliances must match the amperage of the electrical circuit.
- The boat's electrical system should only be serviced by a qualified marine electrician.
- Make sure to identify the source of the gasoline smell (if any). Fuel leakage may cause a fire or explosion.
- Improper self-made upgrading or modification may result in damage to boat structures, galvanic or spontaneous corrosion, as well as a safety hazard.
- Use only aluminum-compatible cleaning products, materials for surfaces treatment or cleaning.
- Contact an authorized Finval dealer or manufacturer for assistance in making new electrical connections, hatches or holes, as well as before installing any equipment and/or before using other metals or alloys with aluminum.



Do not use electrical equipment not recommended by the manufacturer for use in the boat. For more information, contact your local Finval dealer or the manufacturer (for details, see www.finvalboats.com).



### 10. WARRANTY

A limited warranty is provided for your Finval and equipment installed by the manufacturer. The full warranty is available at www.finvalboats.com, in the Finval Service Book, or in a separate document.

For all other questions regarding the warranty on accessories installed on your boat, contact an authorized Finval dealer.

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