



STRONGER

Simple & reliable

**Інструкція з безпеки, монтажу й експлуатації
електричних транцевих плит**

**Safety, installation and operating manual for electric
trim tab assemblies**

**Инструкция по безопасности, монтажу и
эксплуатации электрических транцевых плит**

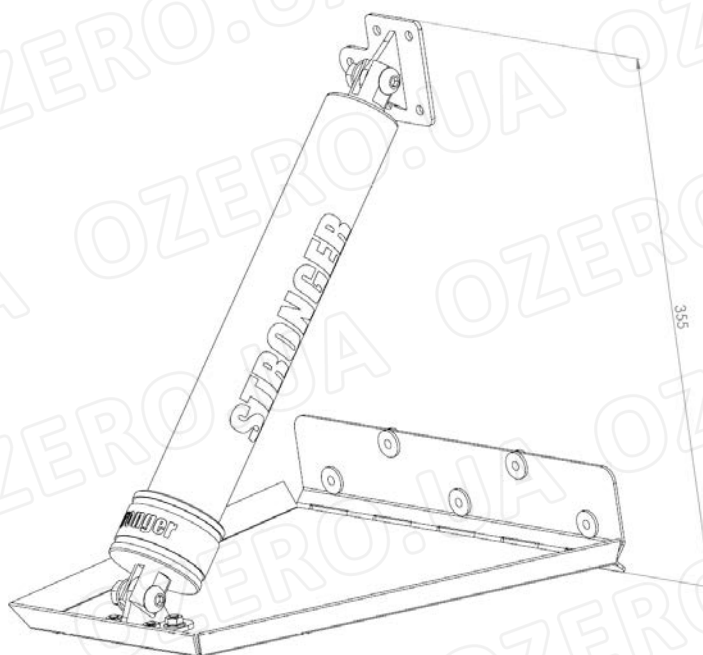


1. DESCRIPTION

Electric trim tabs are used to maintain optimal powerboat's trim (its fore, aft and athwartships attitude in the water) for best performance in different water conditions.

Principle of operation of electric trim tabs is as follows: when a motorboat is moving through water, the lift force generated during movement of the boat can be adjusted by raising and lowering either one or both trim tabs. Selection of proper trim tab inclination angle by pressing the control keys allows to prevent the boat from leaning to one of its sides, as well as to eliminate possible trim by stern.

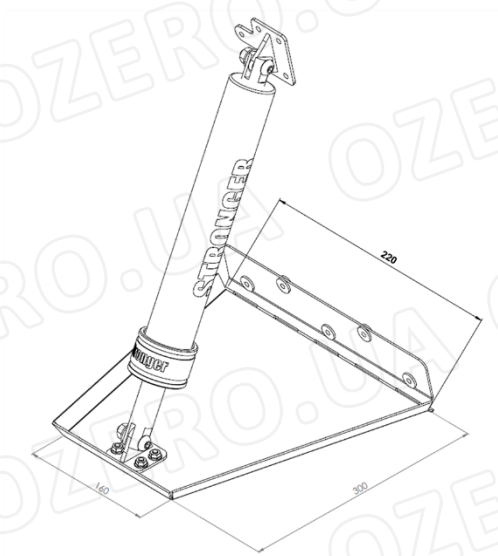
Before proceeding with mounting of the trim tabs, make sure that the distance from the lower trim tab attachment point to the upper edge of the upper actuator bracket is at least 355 mm – otherwise it is not possible to install these trim tabs on your boat.



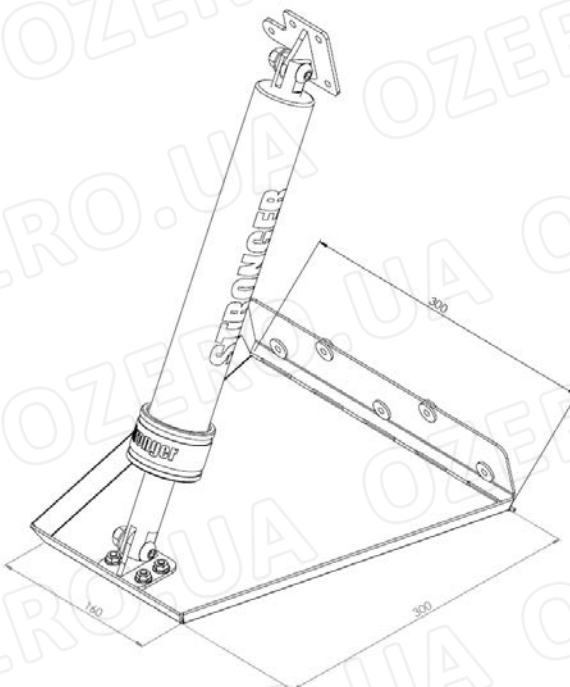
At the moment, our company produces 3 trim tab versions for motorboats of different length.

Option 1.

For powerboats with a length of 4-6 m

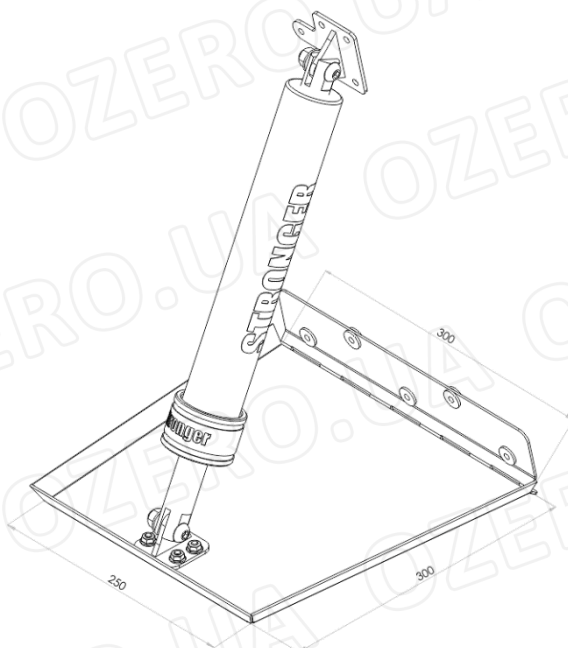
**Option 2.**

For powerboats with a length of 4.8-7.5 m



Option 3.

For powerboats with a length of 6.4-9 m



2. SCOPE OF DELIVERY

Trim tabs	2 pcs.
Upper bracket	2 pcs.
Lower bracket	2 pcs.
Control panel	1 pce.
Control key switch	2 pcs.
Electric actuator	2 pcs.
Cable with connector for the control key switch	2 pcs.
Heat-shrink solder seal wire connector (tube)	4 pcs.
Mounting kit	1 set
User manual	1 pce.
Warranty card	1 pce.

STRONGER reserves the right to change specifications without notice!

3. SAFETY DURING OPERATION OF TRIM TAB ASSEMBLIES

1. Do not use the device under the influence of drugs or alcohol.
2. Children under the age of 18 (age of legal majority) shall not be allowed to use the device.
3. Never obstruct movement of trim tabs with hands or inappropriate items. This may damage the device.
4. Make sure that the device is used only at ambient temperatures above 0 °C. Also make sure that there is no ice or any foreign items on the water and on the device itself.
5. Make sure your battery is charged and voltage corresponds to the factory recommendations.
6. When mooring alongside or when approaching the shore, make sure to prevent contact between the trim tabs and any objects. This may destroy the device and damage it.
7. After the use always lift up both trim tabs and turn off power supply in the boat to prevent discharge of the battery.
8. Never insert or force any foreign items into the device as this can result in serious injury or damage to the device.
9. Never attempt to repair the device by yourself. This may cause a fire.
10. When loading your boat onto a trailer or spotting it in a berth, lift up both trim tabs to the uppermost position by pressing both UP buttons. Otherwise the device may be damaged.
11. It is forbidden to climb on the trim tabs or to load them by placing any heavy objects.
12. Do not place your hands between moving parts of the assembly.
13. Do not modify the device or incorporate any additional components into its structure.

14. Do not use the device for any purposes other than those for which it is intended according to the technical documentation.
15. Only appropriately qualified personnel shall be allowed to carry out the installation works.

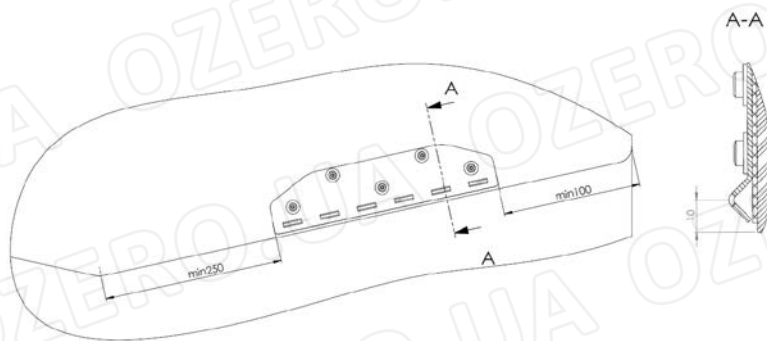
4. INSTALLATION OF TRIM TABS

Unpacking

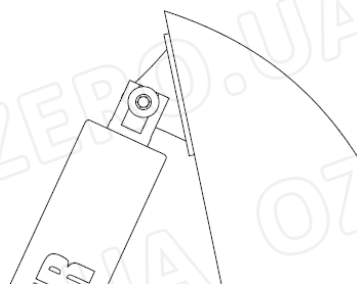
When unpacking, pay attention to any damage that may have occurred during transportation and delivery of the trim tab assemblies. In case of any transportation damages contact your carrier with a request to reimburse your losses associated with unsatisfactory delivery.

Installation

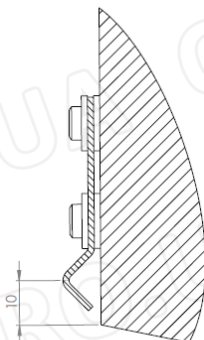
The trim tabs are mounted in the lower part of the boat stern (transom). Mark the tab mounting positions as shown in the figure below.



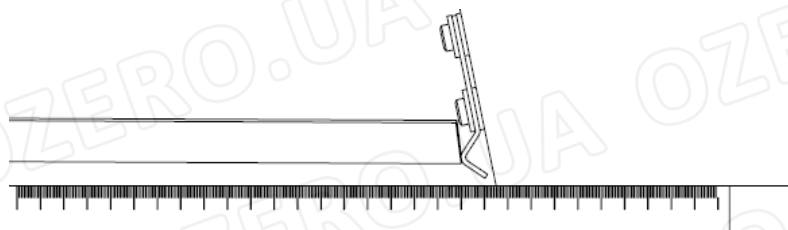
Make sure the upper mounting bracket of the actuator will not be positioned close to any structures, which will obstruct installation and routing of cables from the inner side of the transom.



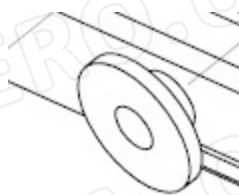
Place the trim tab at least 250 mm away from the boat centreline and at least 100 mm away from the boat bilge. The trim tab shall be 10 mm above the bottom of the transom along its whole length.



Make sure the hinge is parallel to the bottom edge.

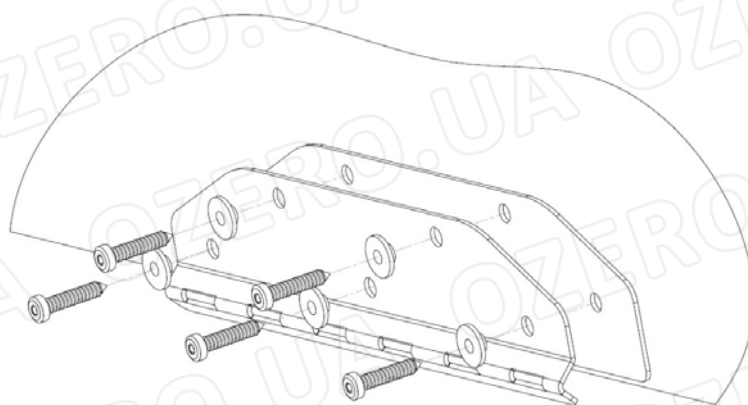


Please do not forget about the insulating washers supplied in the mounting kit. The insulating washers are installed to prevent direct contact between the trim tabs made of stainless steel and aluminium alloy boat hull (otherwise a galvanic couple may be formed).

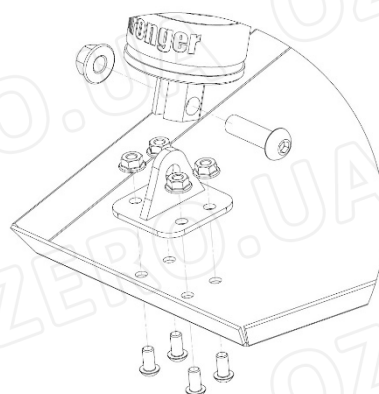


Place a hinge into its mounting position, check all relevant dimensions, and then mark positions of holes to be drilled for fixing the trim tabs. Drill 5 mm dia starting holes to a depth of not more than 30 mm.

Fill the drilled holes with silicone sealant. Apply small amount of sealant along the perimeter of the hinge and secure it using self-tapping screws supplied together with the trim tabs. All supplied fasteners are made of stainless steel. Do not use fasteners made of other materials.



Then attach the lower actuator brackets to the trim tabs as shown in the figure below.

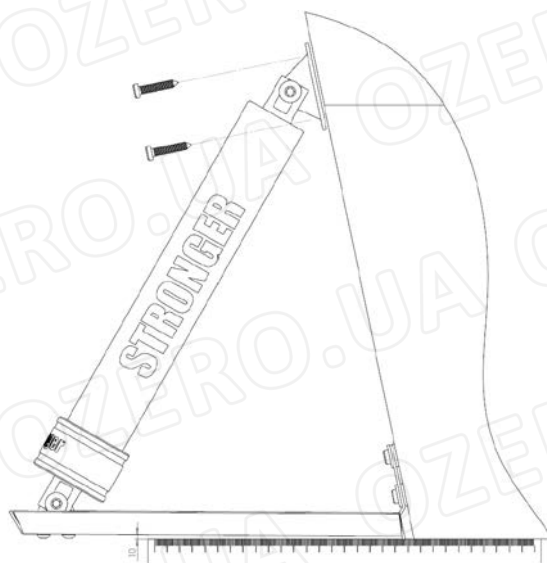


All actuators are delivered with fully retracted rod, as shown in the figure below. Be sure to mount the actuators only with the rod in its retracted end position, otherwise the trim tabs will work incorrectly!

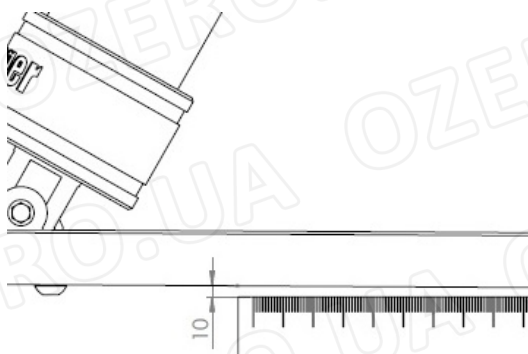


Now proceed to fastening the upper actuator bracket.

In order to mount the trim tabs to proper inclination angle, tightly press a ruler (on its edge) to the bottom of the boat from outside, so that the ruler end protrudes beyond the transom of the boat by the length of the trim tab, as shown in the picture below.

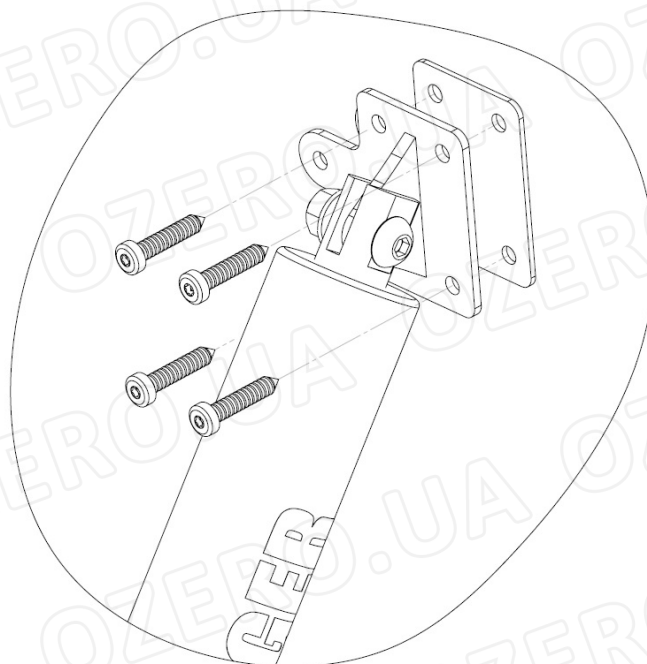


Then by raising and lowering the trim tab edge, measure the required distance under the trim tab in the area of the actuator attachment from the top edge of the ruler to the bottom of the trim tab;



then firmly attach the upper actuator bracket to the upper part of the boat transom. While holding the upper actuator bracket in place, mark positions of the mounting holes to be drilled through the bracket holes with a pencil or permanent marker. Follow the same procedure on both sides of your boat.

Now drill holes for attaching the upper bracket as well as one cable entry hole in previously marked locations. Fill the drilled holes with silicone sealant and secure the hinge using self-tapping screws supplied together with the trim tabs. Pass the actuator control wire through the hole in the bracket, leaving a small loop (for movement) on the outside, and then fill the hole around the wire with sealant.



6. INSTALLATION OF THE CONTROL UNIT

Place the control unit frame on the dashboard in a convenient location. Make sure that nothing will impede (block, obstruct, etc.) further installation and use of the control unit. While holding the control unit frame in place, mark cutouts for installation of the control key switches and centres of mounting holes to be used for fixing of the frame. Drill and cut the marked holes and cutouts. Now attach the frame to the motorboat control console using fixing hardware included in the scope of delivery. Insert both key switches used to control position of the trim tabs. Then push connectors of the control cables onto the key switches following marking on the connector plugs. Connect cable marked with "R" to the right key switch and cable marked with "L" to the left key switch respectively. Lay both cables along one broadside or both broadsides. Each of the cables ends with two wires – red and black. Cable marked with "R" shall be connected to the right actuator, and cable marked with "L" – to the left actuator accordingly. Now you have to connect both cables to wires of the right and left actuators, which come from the inner side of the transom. To do this, insert both red wires and both black wires into heat-shrink solder seal wire connectors (supplied together with the trim tabs) and push the wire ends towards each other to intermesh the strands. Then heat central part of each tube connector using a heat gun or a lighter – the applied heat will melt the solder and permanently connect the wires together; then heat the rest part of the shrink tubing until it forms tightly around the wire. Proceed as described above to connect the left and the right actuators.

6. OPERATION

This section describes how the trim tabs are used. Please read this manual carefully before using the device.

The trim tabs are operated by 2 key switches. You can adjust tilt of the boat as follows: – when you press both keys switches DOWN when the motorboat moves in water, the bow goes down, so that the boat easily comes into the hydroplaning mode; – when you press both UP keys switches, the bow rises and effect of the trim tabs declines; – if the boat heels to starboard (right), level it by holding the right key switch pressed DOWN until the boat gets levelled and then set the key to neutral position and thereby fix the trim tab position. If the boat heels to the port side (left), level it by holding the left key switch pressed DOWN until the boat gets levelled and then set the key switch to neutral position.

We recommend placing both trim tabs to lower position by pressing both key switches DOWN when starting motion of the boat. Trim tabs will create the lift force at starting, and your boat will quickly reach the planing speed. As soon as the motorboat starts motion, lift both trim tabs up by pressing both key switches UP. Depending on the boat loading, you may not need to lift the trim tabs to the uppermost position but leave them lowered to a certain extent to give a smooth and comfortable ride; in such a case, set both key switches to neutral middle position at the right moment to fix the trim tabs in the required travelling position.

If you notice that the boat heels to on one of the sides, press the key switch of side to which the boat trims DOWN. I.e. if the boat heels to starboard (right) – press the right key switch, and if the boat heels to the port side (left) – press the left key switch. Control levelling of the boat as you hold the key switch pressed DOWN and the trim tab goes down. As soon as the boat gets levelled, set the key switch to neutral position to fix the trim tab in the required travelling position and continue riding the boat.

When you reach the mooring area, press both control key switches up to move the trim tabs to the neutral upper position. This is especially important when loading your boat onto a trailer. Failure to do this may result in damage to the trim tabs, making them inoperable. Follow the same operation procedure at each boat ride.

7. MAINTENANCE

When carrying out annual servicing of the boat and before the shipping season, make sure that all screws, bolts, and nuts are securely tightened. Make sure that moving and driving parts are free from any fouling. Control condition of the sealing glands in the lower part of the actuators. We recommend replacing the actuator sealing glands before each shipping season. This will significantly extend service life of your device.

8. WARRANTY

The warranty period makes the 14 months. This warranty is granted to the direct buyer, without the right to transfer it to any third parties. STRONGER reserves the right, at its sole discretion, to repair or replace any part of the trim tab assembly that may fail or be defective within the warranty period that starts from the date of purchase. For warranty repair or replacement of the trim tabs, the buyer has to present the warranty card confirming the date of purchase and has to notify the dealer about the need for warranty repair using any convenient means of communication and contacts.

Warranty disclaimer:

Failure to follow the instructions contained in this trim tab assembly manual will void the warranty. This warranty covers defects in the materials the assembly is made of.

Product warranty will be void in the event of improper use or handling, improper installation, accident, use of the product while intoxicated, changes in the construction, or improper maintenance. Product warranty will be void.

The warranty shall not cover any damage resulting from improper use. The costs of installation or dismounting the product in the event of return, as well as its shipment and delivery to customers, will not be repaid.

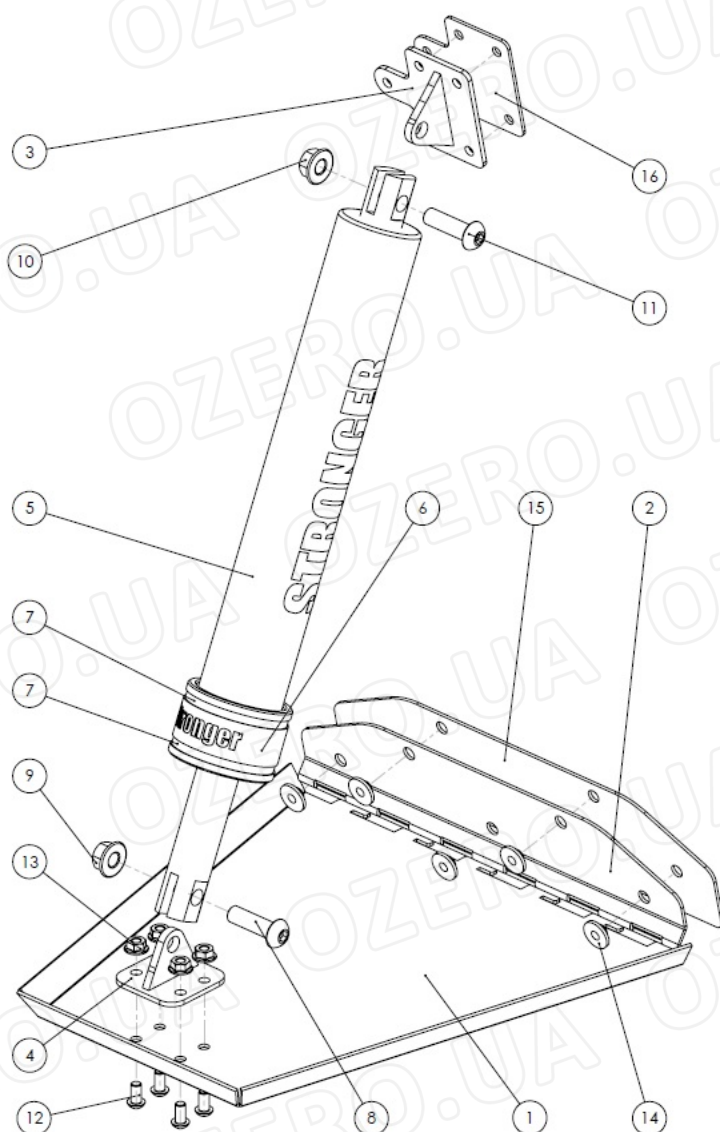
This is an exclusive remedy, and our company does not bear any responsibility for any incidental or consequential damages or expenses. This express limited warranty gives you specific legal rights, and you may also have other rights that vary by state.

In the event of disputes that cannot be resolved through negotiations, you have the right to resolve the issues in court.

It is strictly forbidden to disassemble the automatic control unit of the product and to expose electronic modules of the assembly to water and other liquids. It can result in electric shock, injury, and will automatically void of the product warranty.

The device shall be powered from a separate on-board network or from a 12 V battery with a capacity of at least 50 Ah. Observe the polarity when connecting the power supply. Failure to observe the polarity may result in failure of the device.

9. Design of the trim tab assembly



- 1. Trim tab**
- 2. Trim tab hinge**
- 3. Upper bracket of the actuator**
- 4. Lower bracket of the actuator**
- 5. Electric actuator**
- 6. Sealing gland**
- 7. Stainless clamps**
- 8. 9. 10.11. Fixing hardware for the actuator**
- 12. 13 Fixing hardware for the brackets**
- 14. T-shaped insulating washers**
- 15. Insulating plastic insert for transom plate**
- 16. Plastic insulating insert for upper bracket**