

LECTROTAB™ TRIM TAB SYSTEM CONCEPT & DESIGN

The Lectrotab concept is to offer a non-hydraulic trim tab actuator which cannot corrode, requires no maintenance, is permanently sealed, will continue to operate with a fouled ram, has strong deploying as well as retracting power and requires no installation space inside the boat.

The Lectrotab design, as shown at the right, addresses all of the above original concept criteria and much more. With no components to install inside the boat, original installation time is greatly reduced. The positive “stop and lock” drive mechanism allows precise positioning and absolute lock against tab deflection when backing down or if the tab is used as a boarding step. And oil can't leak-there is none. Check the design call outs for additional design features.



A For retrofit, the ram end fits directly into the most popular tab bracket.

B Combination lower seal/scrapper acts to clean the ram when it is retracted but is not relied upon as the primary seal since no scrapper can reliably defoul the ram.

C Upper seal, located above any point on the ram which is exposed to fouling, cannot be damaged and is the primary ram sealing element. U.S. Patent No. 5,881,666.

D Hardened steel free wheeling ballscrew provides 700 pounds of force to the tab and eliminates electrical limit switches inside the actuator.

E Controlled torque thrust bearing surface for good service life and positive braking against reverse free-wheeling. Prevents unwanted tab retraction when under way.

F Actuator has a completely non-metallic exterior for absolute resistance to corrosion.

G Greased and sealed 40:1 planetary gearbox provides smooth, quiet, high-torque drive to the ballscrew.

H Reversible D.C. motor is torque limited to protect the gearbox and is instantly stopped when the control switch is released to prevent ram overtravel.

I Electromagnetic suppression device assures compliance with European CE standards and eliminates voltage spikes for better control switch contact life.

J Vent-tube check valve allows air in but not out, thus providing automatic internal pressurization to about 8 PSI when the tab is retracted. U.S. Patent No. 5,881,666.

K Power cord can be routed through upper bracket to exit at the bracket's center or may be routed independently of the bracket.

L Upper bracket can be positioned from vertical through horizontal.

M Screw-hole pattern and wire exit position match the screw pattern and hydraulic connection of the most popular hydraulic type. An additional screw-hole pattern is also provided.

N Standard tabs are 12-gage, 304 stainless steel of a two-piece integral-hinge design, have no welds, are straightforward to install, and have no gaps in the hinge rotating area to become fouled. Hinge pin is of 316 stainless steel. Sizes are 9" and 12" long, (chord), and from 9" to 42" wide.

O Special tabs of many sorts, with edges turned up or down, configured straight or tapered, or braced for strength, are available. Inquiries are invited.



BASIC PANEL Two rocker switches in a panel, which is 3 1/8" x 3 1/4" high. Black semi-gloss finish. Switches are also available individually. Switches meet mil-std 202F for salt spray.



TAB POSITION INDICATOR 2 1/4" diameter. Eight LED's indicate port and starboard tab position. Can be used with, or retrofitted to, any 4 or 8 second Lectrotab installation. Typically used with the basic panel. Display dims automatically at night.



THE OVAL A microprocessor based trim tab control and trim tab position indicator, incorporating tab retraction and calibration of the indicators whenever the control power is switched on or off. The display automatically dims at night. This control is self-contained (no remote electronics enclosure) and mounts over a 2 1/16" diameter hole. Size is 3 3/8" high by 4" wide. Most importantly, this control is completely sealed, completely waterproof, front and back, and will not deteriorate in sunlight. Handles up to two actuators per tab. Designed primarily for exposed installations such as center console and flying bridge applications.



THE WIRELESS Same features as the OVAL except smaller, at 2 1/2" x 3". Also has two additional buttons, ALL UP and ALL DOWN, for quick, one touch, tabs up or tabs down. Touch and release, and both tabs are moving. Touch again and the tabs stop. Touch again to continue. Once started, if the button is left alone, the tabs will continue until fully up or down. Uses radio frequency communication which eliminates interconnecting wiring between the control at the helm, and the tab actuators at the stern. Compatible with integrated on-board information systems.



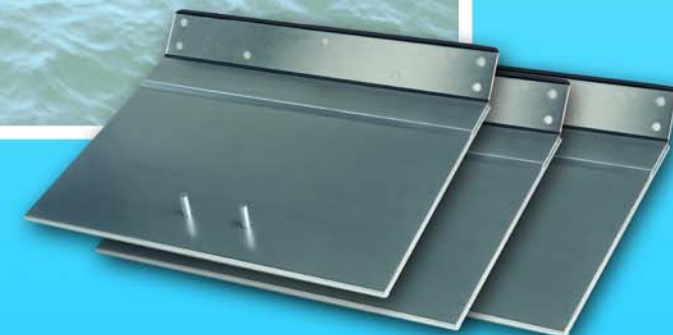
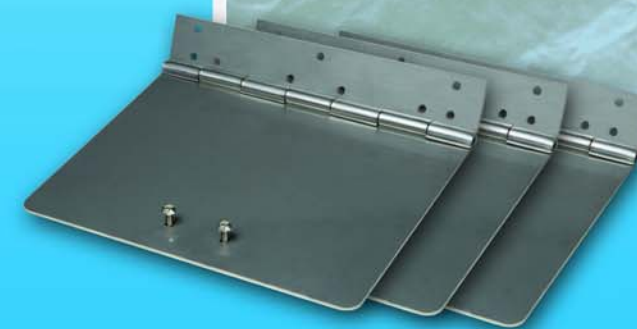
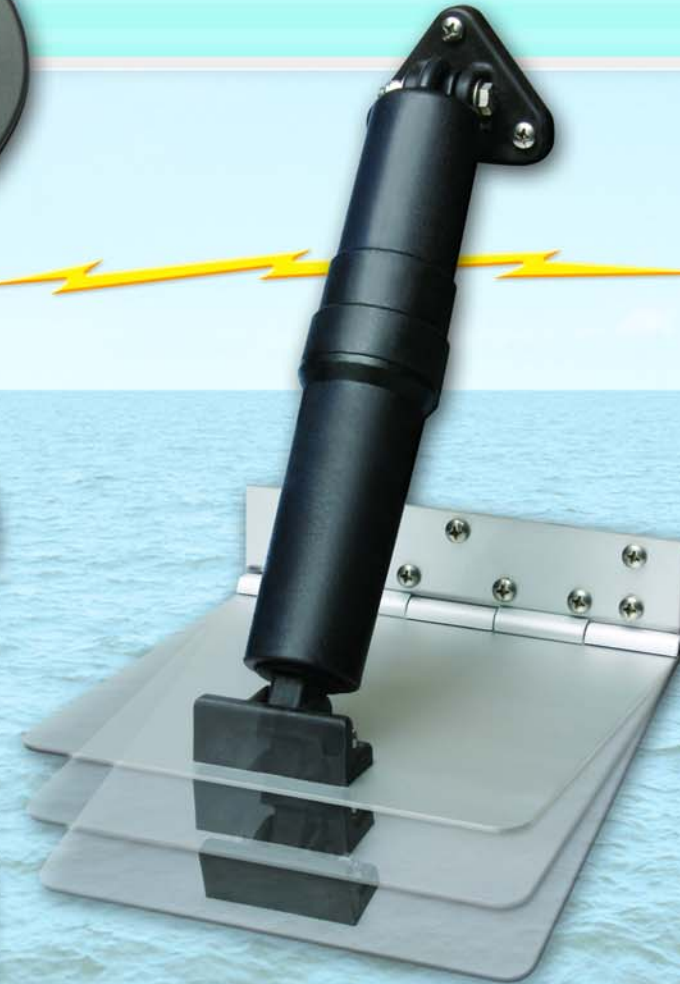
TAB ACTUATORS Precision, quiet, powerful and guaranteed for 5 years. Lectrotab actuators are available in two overall lengths, in 12 or 24 VDC, with 4, 6 or 8 second stroke times and custom wire lengths. Also available are numerous different upper and lower brackets. See the centerfold for construction details and patented design features.



TABS 304, 12 gauge stainless steel, with a rolled and pinned hinge, available in all standard sizes as well as in custom sizes and shapes. This new, patented, 6005-T5 alloy tab, with a polypropylene live hinge, is available in most standard sizes and in custom sizes as well. Alloy tabs cannot be turned up or down at the edges.

LECTROTAB™

TRIM TAB SYSTEMS



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