

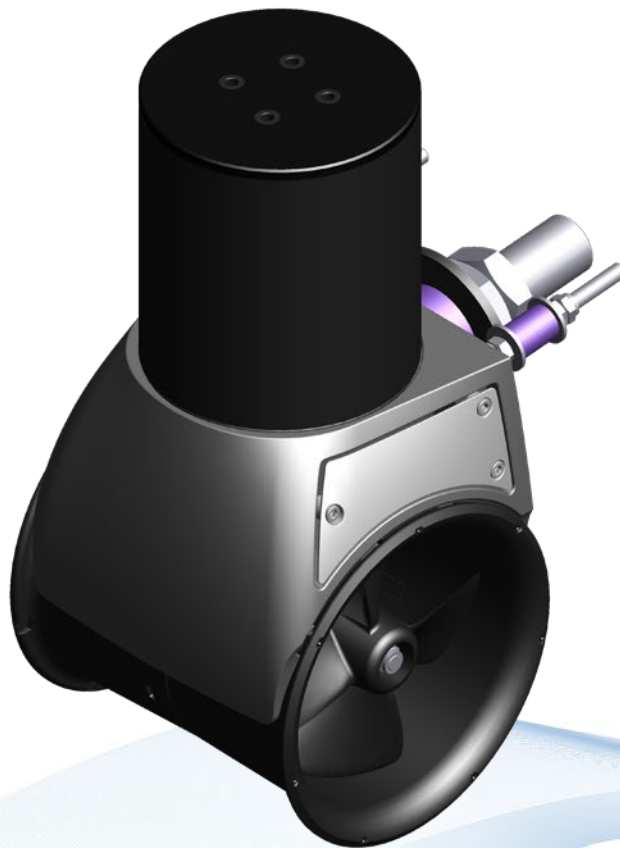


**SIDE-POWER**  
Thruster Systems

**SX SERIES**

# THRUSTER USER MANUAL

Keep this  
manual onboard!



To download your language go to [www.side-power.com](http://www.side-power.com)



**SLEIPNER MOTOR AS**

P.O. Box 519  
N-1612 Fredrikstad  
Norway  
[www.side-power.com](http://www.side-power.com)

Document id: 5924

Revision: 4

Date: 2019



Made in Norway

© Sleipner Motor AS 2019

**Product Information**

User Considerations and Precautions .....	3
Thruster Operation .....	4
Control Panel.....	5
Maintenance.....	6 - 7
Troubleshooting - DC series .....	8
Seasonal Checklist.....	9

<b>Spare Parts .....</b>	<b>10</b>
--------------------------	-----------

<b>Warranty statement .....</b>	<b>10</b>
---------------------------------	-----------

<b>Identifying your Product.....</b>	<b>15</b>
--------------------------------------	-----------

**DECLARATION OF CONFORMITY**

MC\_0020



Sleipner Motor AS  
P.O. Box 519, Arne Svendsensgt. 6-8  
N-1612 Fredrikstad, Norway

Declare that this product with accompanying standard control systems complies with the essential health and safety requirements according to:

DIRECTIVE 2013/53/EU  
DIRECTIVE 2014/30/EU  
DIRECTIVE 2014/35/EU

**IMPORTANT**

**Failure to follow the Considerations and precautions can cause serious injury / damage and will render all warranty given by Sleipner Motor AS VOID.**

- Ensure you know the location of the main battery switch that disconnects the thruster from all power sources (batteries) so the thruster can be turned off in case of serious malfunction.
- Always turn the main power switch off before touching any part of the thruster, An incidental start while touching moving parts can cause serious injuries.
- Always turn the control device off when the thruster is not in use.
- The maximum continuous run time of the electrical thruster is approximately 3 minutes. The electromotor has a built-in thermal cut-off switch that will shut off the electro-motor if it is overheating and re-engage when it has cooled down. Consider this when planning your manoeuvring.
- As above the thruster will limit its total running time per period. Do not count on the thruster to hold you in a strong current or side wind for extensive periods. Depending on the surrounding temperatures etc. the thruster will be able to run approximately 10 % of the time.
- Never use thrusters close to objects/ persons or animals in the water, as the thruster will draw objects into the tunnel and contact with the rotating propellers will cause serious injuries and damage the thruster.
- With the boat on land, only run the thruster for a fraction of a second, as without resistance it will accelerate very fast to a potentially damaging rpm.
- While the thruster is in the air, ensure that the propellers have come to a complete stop before performing a directional change of the thruster, as it might cause damage to the thruster.
- If the thruster stops giving thrust while the electro-motor is running, there is possibly a problem in the drive system. You must immediately stop running the thruster and turn it off. Running the electromotor for more than a few seconds without resistance from the propeller can cause serious damage to the electromotor.
- When leaving the boat always turn off the main power switch for the thruster.
- We advise keeping the main engine(s) running while using the thruster. This will keep the batteries in a good charge condition. It will also give better performance to the thruster, a higher voltage at the thruster results in a higher torque (power) in the electromotor.
- Please note the performance of the thruster strongly depends on the voltage available at the electromotor. This voltage will decrease over time because ageing batteries have reduced capacity. Installing new batteries will bring back the thruster to the original level.
- Ensure only one control is used at the same time, if two panels are operated in opposite directions at the same time the thruster will not run. If both are operated in the same direction, the thruster will run in this direction.
- If the thruster is not performing or functioning as usual, the cause must be found and corrected as soon as possible to avoid causing any other or further damage to the equipment. You must also turn off the main battery switch immediately in case the problem is of electric origin.
- Never store items (e.g. equipment, sails, ropes etc.) in the same compartment as the thruster. When the thruster runs for an extended period, it can reach 100°C and will cause damage to nearby items. The electromotor will generate some carbon dust so any storage compartment must be separated from the thruster to prevent nearby items from becoming dusty/ dirty. Any loose items near the thruster motor can cause problems with electrical wiring coming loose and short-circuiting.
- The electromotor, its components, contacts/ plugs or other joints in the control cables must be mounted so they will remain dry at all times.
- It is the owner/ captain/ other responsible parties full responsibility to assess the risk of any unexpected incidents on the vessel. If the thruster stops giving thrust for some reason while manoeuvring you must have considered a plan on how to avoid damage to persons or other objects.
- The primary purpose of the thruster is to manoeuvre/ dock the vessel. Forward/ reverse speed must not exceed 4 knots when operated.
- If there is a problem with your Ignition Protected stern thruster, please contact your dealer.

**IMPORTANT**

**NEVER Disassemble any part of the Ignition Protected stern thruster assembly. Tampering with the Ignition Protected stern thruster assembly or any attempt to disassemble anything on this thruster assembly inside the boat can cause an explosion with severe consequences.**

**! Please refer to the graphic for special considerations relating to your model !**

Take time to practice operation in open water to become familiar with the thruster and to avoid damages to your boat or people.

#### How to use a Bow Thruster

1. Turn on the main power switch for the bow thruster. **(NB: Always turn off the main power switch when not onboard.)**
2. Turn on the control panel by pushing both "ON" buttons on the original Side-Power panel simultaneously. **(NB: If another type of control is installed, push the On/Off switch for the bow thruster.)**  
\* Turn off the control panel by pushing both "OFF" button
4. To Turn the bow in the desired direction push the red button for port movement or the green button for starboard.  
- For joystick control, move the joystick in the direction you wish the bow to move.  
- Other controls like footswitches or toggle-switches on the throttle can be used. Engage the port control, the bow will turn to port etc.
5. Depending on the sideways speed of the bow, you must disengage the control device shortly before the bow is in the desired position. **(NB: The boat will continue to move after disengaging the thruster control.)**

#### How to use a single stern thruster

Due to space limitations, a vessel may only have a stern thruster. In this case, the stern thruster is used in the same way as a single bow thruster for moving the boat's stern. Follow the above instruction for operation use.

#### How to use a combined bow and stern thruster

The combination of a bow and stern thruster offers total manoeuvrability to the boat and the ability to move the bow and the stern separately from each other. This enables you to move the boat sideways in both directions and turn the boat around its axis 360° staying stationary.

**NB: At any significant cruising speed (+1-2 kn) the side thruster will have little effect to steer the vessel.**

ON/ OFF CONTROL PANEL



# Control Panel

Turn ON thruster

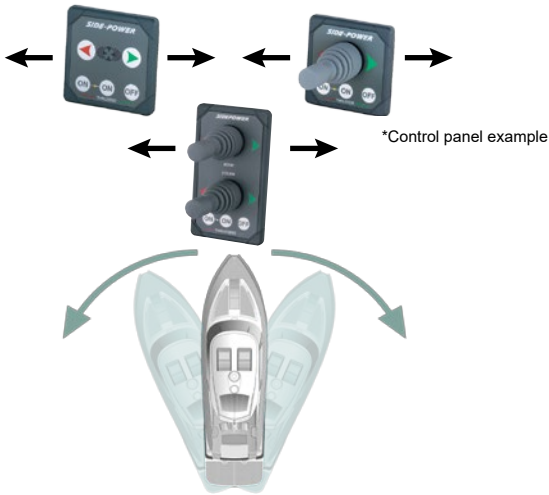


Turn OFF thruster



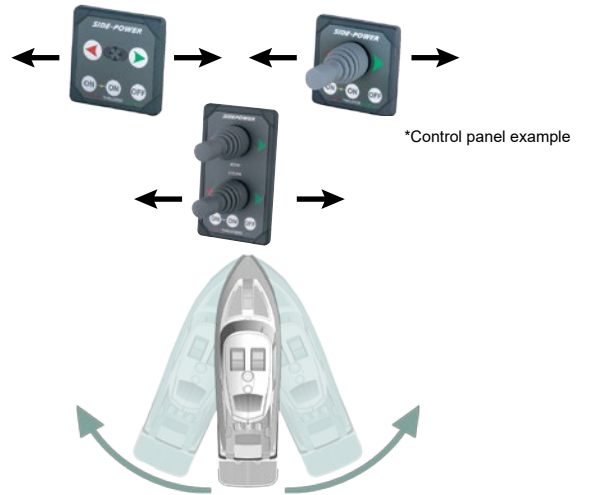
\*Control panel example

Activating the bow thruster



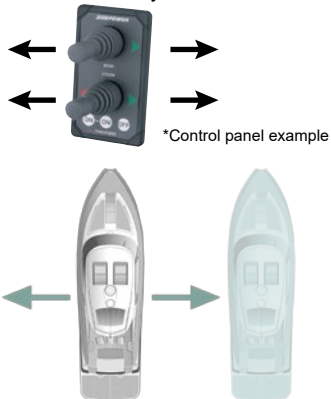
\*Control panel example

Activating the stern thruster



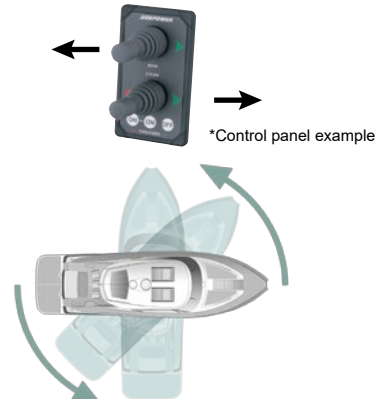
\*Control panel example

Activating both bow and stern thruster to push the boat sideways



\*Control panel example

Activating both bow and stern thruster to rotate the boat on axis



\*Control panel example

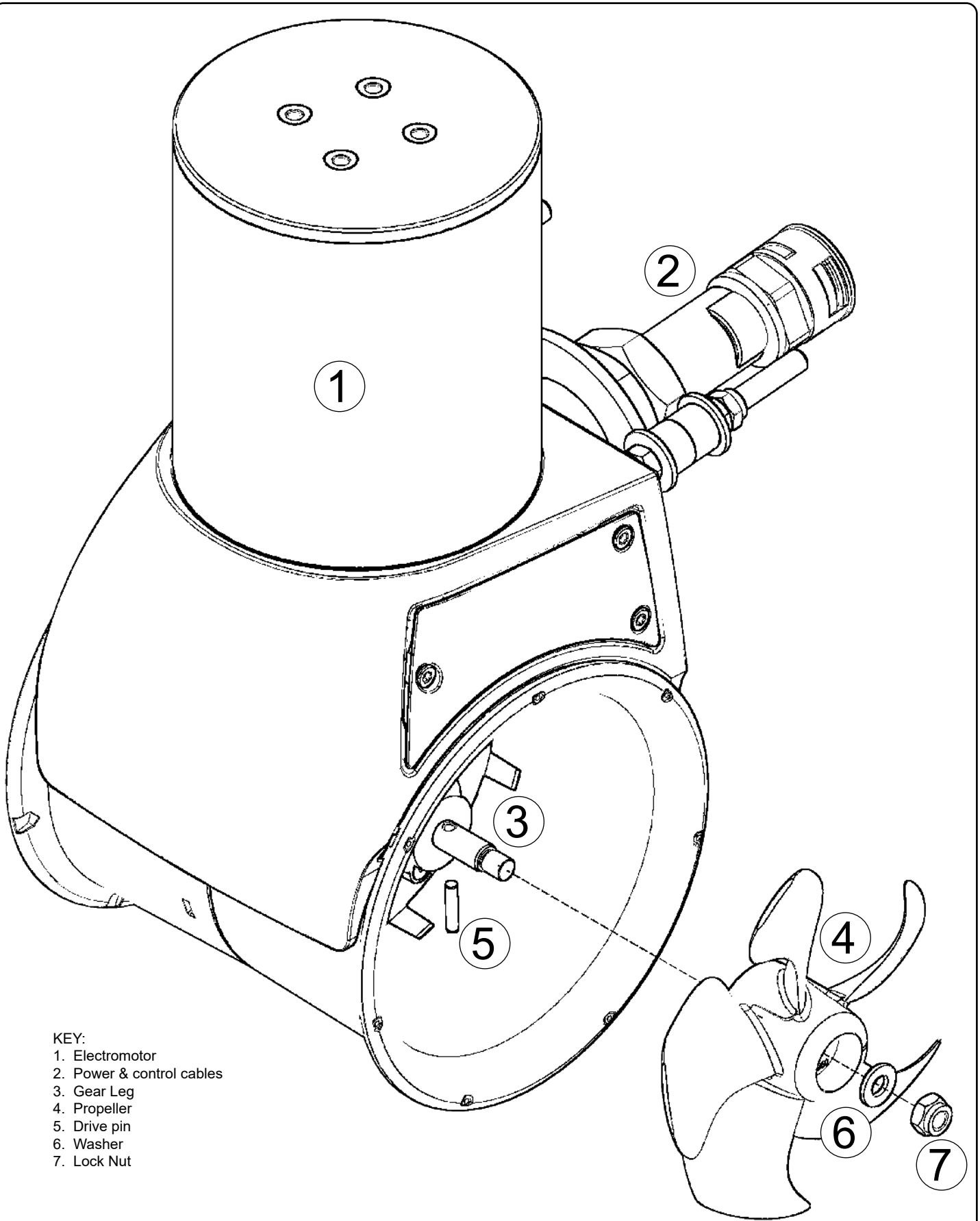
**! Please refer to the graphic for special considerations relating to your model !**

**As a part of the seasonal service of your Thruster before every season, always check that:**

- The propeller is fastened securely to the gear leg.
- Bolts holding the thruster components together are fastened securely.
- The area around the thruster is clean and dry. Ensure there are no signs of water.
- Paint the propeller and gear leg with antifouling before every season to keep it clean from sea growth. **(NB: Never paint the anode, sealings or propeller shaft. Ensure paint does not enter the space between the propeller and the gear leg. Ensure to use antifouling designed for drivers)**
- Change the zinc anode before every season, or when half the anode has eroded. Always use a sealant or thread glue on the holding screw to ensure that it does not fall off. **(NB: In some water conditions, it may be necessary to install an extra zinc anode to ensure that it lasts for the whole period between regular service lifts of the boat. Consult your dealer for information on how to do this.)**
- All electrical connections are clean and fastened firmly.
- Ensure that your batteries are in good condition.  
\*While running the thruster measure volt output is greater than  
(10.5v) for 12v motors  
(21v) for 24v motors
- **OIL LUBRICATION GEAR LEGS:** There must always be oil in the oil reservoir. Refill if necessary with gear oil EP90. Change the gear oil a minimum of every second year. Check the gear oil quality in the gear house every time the boat is out of the water.
- If there is a problem with your Ignition Protected stern thruster, please contact your dealer.

#### IMPORTANT

**NEVER Disassemble any part of the Ignition Protected stern thruster assembly. Tampering with the Ignition Protected stern thruster assembly or any attempt to disassemble anything on this thruster assembly inside the boat can cause an explosion with severe consequences.**



KEY:

- 1. Electromotor
- 2. Power & control cables
- 3. Gear Leg
- 4. Propeller
- 5. Drive pin
- 6. Washer
- 7. Lock Nut

Before seeking assistance at the help desk from your Side-Power dealer/ distributor, please perform these tests.

**(NB: All checkpoints and solutions must be carried out after consulting the relevant information elsewhere in this manual to understand how the system is intended to work. If you are unable to understand what to check, you must consult a professional.)**

CHECK	SOLUTION
<b>The electromotor runs, but there is no thrust</b>	
Check propellers are fastened correctly on the prop shaft	Re-fasten or replace if necessary
With the motor removed turn the driveshaft to ensure gears are turning the prop shaft to identify if failure is inside the gear house.	In case of failure inside the gear house, we advise replacing the gear house instead of attempting to repair the internal gear and bearing system.
*Check the flexible coupling, and shear pin between the motor and driveshaft is fitted correctly	Replace if necessary
<b>The thrusters performance is working lower than expected</b>	
Check brush-springs sit correctly on the brushes in the electromotor	If one or more brushes are loose or has no tension from the brush-spring, the performance will be low.
Check the propeller, gear house and tunnel are free from growth/ barnacles or debris	If there is growth in the tunnel, this will disturb/ block the water flow and significantly reduce performance
<u>While in use</u> , check the voltage of the electromotor is not lower than the specified amount. The voltage when in use should be: = 10,5V system = 21V system - If running at below voltage:	<b>(NB: Keep the main engine(s) running in use to have a continuous charge to the batteries)</b> <ul style="list-style-type: none"> <li>• Check batteries are worn out or in a bad charged condition</li> <li>• Check electrical connections/ wiring for damage or wear (corrosion)</li> <li>• Check cables are the correct size per the product manual</li> <li>• Tighten/ re-adjust connections</li> </ul> } Replace if necessary
<b>The thruster does not start/ works in only one direction</b>	
Check the voltage of the electromotor is correct for your installation and model.	If wrong, contact your dealer or distributor to obtain parts with the correct voltage.
<u>When not in use</u> , check the voltage at the thruster. The voltage when not in use should be: = 12V system @ 12,7 V (not below 12,3V) = 24V system @ 25,4 V (not below 24,6V) - If running at below voltage: <b>(NB: if less than 8V the thruster cannot operate)</b>	<ul style="list-style-type: none"> <li>• Check batteries are worn out or in a bad charged condition</li> <li>• Check electrical connections/ wiring for damage or wear (corrosion)</li> <li>• Check cables are the correct size per the product manual</li> <li>• Tighten/ re-adjust connections</li> </ul> } Replace if necessary
<u>IF</u> the main solenoids in the thruster are not trying to engage (clicking) the thruster might not be receiving a "run" signal from the control panel. Try to run the thruster without the control panel by directly connecting the red and blue or red and grey wires in the control cable contact end coming from the thruster.	<ul style="list-style-type: none"> <li>• <u>IF</u> the thruster runs in both directions, repeat the same process at the connector going into the back of the control panel. ~ If it also works in this position, check the contact and wiring on the back of the panel and engage the thruster again by pushing both ON buttons simultaneously</li> <li>• <u>IF</u> the panel does not turn on (see control light), measure the voltage between the Red and the Black cable at the contact point going into the thruster. ~ If the voltage is good, the chances are that the panel is not working. ~ If it works by the thruster, not by the panel, there is a bad contact or broken cables between these two test points.</li> <li>• Measure that you have the correct voltage between the Red (+) and all the other colours in the contact.</li> </ul>
<u>IF</u> The thruster does not run at all, or only in one direction from the above tests, check the internal wiring on the thruster motor, solenoids and electronic motor interface box in accordance with the wiring diagram in the installation manual and ensure that all connections are clean and tight.	<ul style="list-style-type: none"> <li>• Between the main negative (A1 on motor) and the blue and the grey wires connected to the sides of the main solenoids, the voltage should be the same as between the main battery cables on the thruster. ~ If not, check that the internal wiring on the solenoid and measure that there is contact through the magnetising spools of each side of the solenoid <b>(NB: test between the red and blue on one side, and the red and grey on the other side with an Ohm meter.)</b> ~ If there is no contact between these, the solenoid is broken and needs replacing.</li> </ul>
The thruster is not shutting off after the Joy Stick/ panel is disengaged If using a nonproportional thruster.	check electric contacts or control box for water/ corrosion damage, or it could be a mechanical problem with the main solenoid reacting slowly.
<b>The thruster runs for approximately 0,5 seconds every 4 seconds</b>	
probable cause is low voltage to the thruster	<ul style="list-style-type: none"> <li>• Check batteries if needed recharge</li> <li>• Check electrical connections/ wiring for damage or wear (corrosion)</li> <li>• Check cables are the correct size per the product manual</li> <li>• Tighten/ re-adjust connections</li> </ul> } Replace if necessary
<b>The thruster runs for approximately 0,5 seconds every 10 seconds</b>	
The solenoid might be in a lock-in/ auto stop position.	<ul style="list-style-type: none"> <li>• Shut off thrusters main switch, tap slightly on the motor to release the solenoid pin. Turn on the main thruster switch and test again, If the solenoid is still in a lock-in position, contact your dealer.</li> </ul>

\* Not applicable to SX thrusters.





**For the most up to date documentation, we advise you to visit our website [www.side-power.com](http://www.side-power.com) for the spare parts list.**

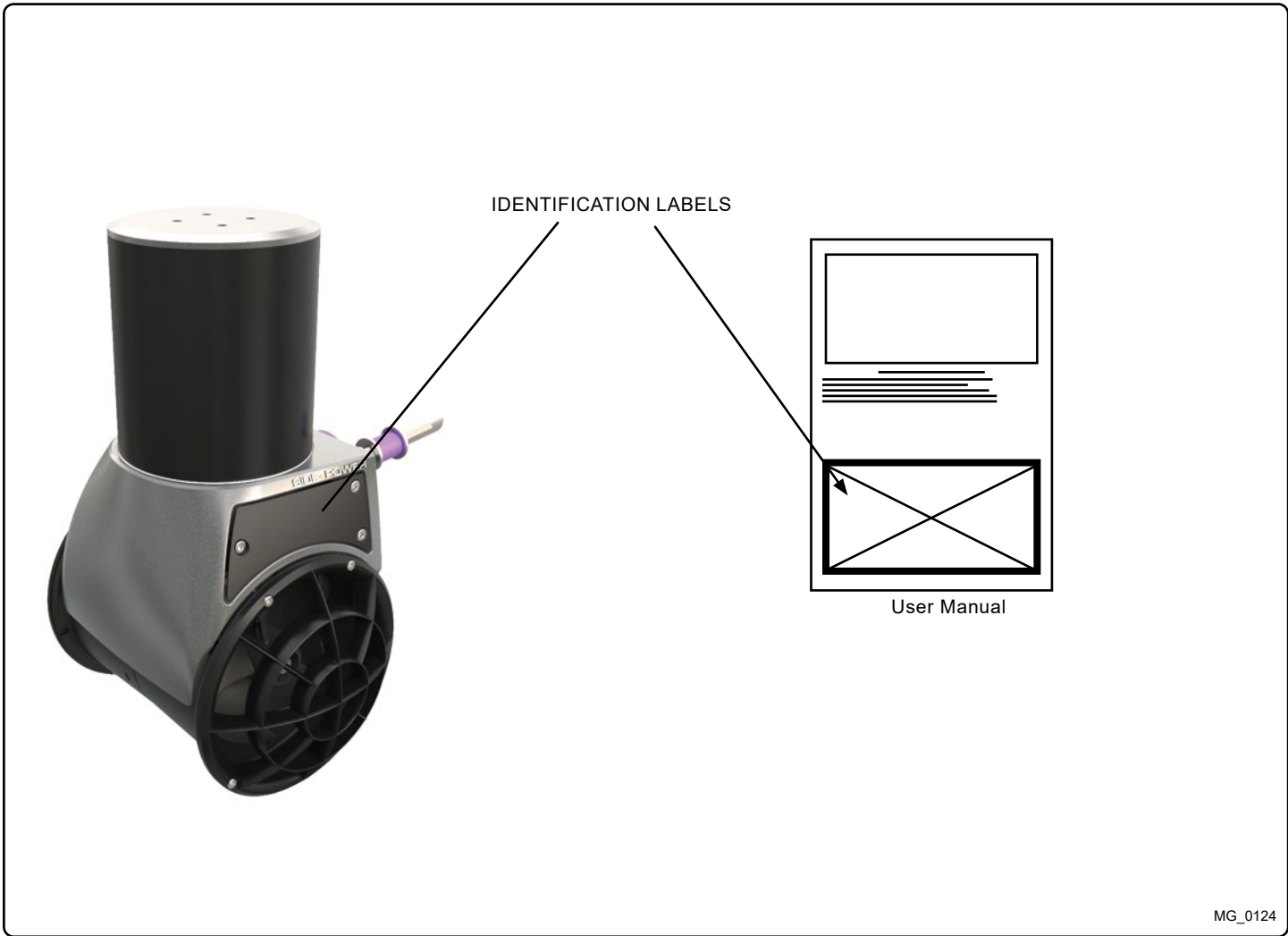
1. The equipment manufactured by Sleipner Motor AS (The "Warrantor") is warranted to be free from defects in workmanship and materials under normal use and service.
2. This Warranty is in effect for of two years (Leisure Use) or one year (Commercial use) from the date of purchase by the user. Proof of purchase must be included, to establish that it is inside the warranty period.
3. This Warranty is transferable and covers the product for the specified time period.
4. In case any part of the equipment proves to be defective, other than those parts excluded in paragraph 5 below, the owner should do the following:
  - (a) Prepare a detailed written statement of the nature and circumstances of the defect, to the best of the Owner's knowledge, including the date of purchase, the place of purchase, the name and address of the installer, and the Purchaser's name, address and telephone number;
  - (b) The Owner should return the defective part or unit along with the statement referenced in the preceding paragraph to the warrantor, Sleipner Motor AS or an authorized Service Centre, postage/shipping prepaid and at the expense of the Purchaser;
  - (c) If upon the Warrantor's or Authorized Service Centre's examination, the defect is determined to result from defective material or workmanship, the equipment will be repaired or replaced at the Warrantor's option without charge, and returned to the Purchaser at the Warrantor's expense;
  - (d) no refund of the purchase price will be granted to the Purchaser, unless the Warrantor is unable to remedy the defect after having a reasonable number of opportunities to do so. Prior to refund of the purchase price, Purchaser must submit a statement in writing from a professional boating equipment supplier that the installation instructions of the Installation and Operation Manual have been complied with and that the defect remains;
  - (e) warranty service shall be performed only by the Warrantor, or an authorized Service Centre, and any attempt to remedy the defect by anyone else shall render this warranty void.
5. There shall be no warranty for defects or damages caused by faulty installation or hook-up, abuse or misuse of the equipment including exposure to excessive heat, salt or fresh water spray, or water immersion except for equipment specifically designed as waterproof.
6. No other express warranty is hereby given and there are no warranties which extend beyond those described in section 4 above. This Warranty is expressly in lieu of any other expressed or implied warranties, including any implied warranty of merchantability, fitness for the ordinary purposes for which such goods are used, or fitness for a particular purpose, and any other obligations on the part of the Warrantor or its employees and representatives.
7. There shall be no responsibility or liability whatsoever on the part of the Warrantor or its employees and representatives for injury to any person or persons, or damage to property, loss of income or profit, or any other consequential or resulting damage or cost which may be claimed to have been incurred through the use or sale of the equipment, including any possible failure or malfunction of the equipment, or part thereof.
8. The Warrantor assumes no liability for incidental or consequential damages of any kind including damages arising from collision with other vessels or objects.
9. This warranty gives you specific legal rights, and you may also have other rights which vary from country to country.

Area with horizontal dotted lines for taking notes.

Area with horizontal dotted lines for taking notes.

Area with horizontal dotted lines for taking notes.

Area with horizontal dotted lines for taking notes.



**EN** MC\_0080

## Identifying your Product

! Please refer to the graphic for special considerations relating to your model !

Sleipner Side-Power products are shipped with a unique identification code and registered in our database for future service and repair assistance. To find additional product information search the serial number attached in this manual below or from the sticker on the motor installed in your vessel.

**IMPORTANT**  
To register your product go to [www.side-power.com](http://www.side-power.com)

**EN** MC\_0080

## Products Identification Code

# Worldwide sales and service



[www.side-power.com](http://www.side-power.com)



SLEIPNER MOTOR \* AS P.O. Box 519 \* N-1612 Fredrikstad \* Norway

The information given in the document was correct at the time it was published. However, Sleipner Motor AS can not accept liability for any inaccuracies or omissions it may contain. Continuous product improvement may change the product specifications without notice. Therefore, Sleipner Motor AS can not accept liability for any possible differences between product and document.

MC\_0030