SLEIPNER
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Installation Guide

For DC External Electric Thruster Models

SXE100

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IM

Contents

Warnings and Safety

MC_0800

It is essential to follow all instructions within this document to avoid potential personal injury, death, or damage to existing products in the vessel, the vessel's hull integrity, and including this product during installation or operation. Failure to follow instructions within this document will render all warranties given by Sleipner Motor as VOID.

Warnings and situations requiring extra caution are outlined in the documentation. Take extra consideration when warnings are outlined.

WARNING
Indicate a potentially hazardous situation that, if not avoided, could result in death or severe injury.

CAUTION
Indicates a potentially hazardous situation that could result in minor or moderate injury or critical damage to vessel integrity if not avoided.

MC_0020

Responsibility of the installer

MC_0038

General:

- The installer must read this document to ensure necessary familiarity with the product before installation.
- Directions outlined in this document cannot be guaranteed to comply with all international and national regulations, including but not limited to health and safety procedures. It is the installers responsibility to adhere to all applicable international and national regulations when installing Sleipner products.
- This document contains general installation guidelines intended to support experienced installers. Contact professional installers familiar with the vessel, Sleipner products and applicable regulations if assistance is required.
- If local regulation requires any electrical work to be performed by a licensed professional, seek a licensed professional.
- When planning the installation of Sleipner products, ensure easy access to the products for future service and inspection requirements.

For Sleipner thruster systems:

MC_0425

- Do not install the thruster system in any position that requires modification of hull stiffeners or stringers. This might jeopardize the hull integrity. Consult with the boat builder to see if this can be done safely if absolutely necessary.
- Never run the thruster out of water. The propeller will reach extremely high speed, damaging the thruster.
- The thruster motor must be handled with care. Do not rest the motor on its drive shaft, as its weight can damage it.

For externally mounted thruster systems:

MC_0427

- Ensure enough space inside and outside the transom when planning the thruster's position. The thruster must not interfere with existing equipment inside the boat, such as motor bedding, steerage links, etc.
- Avoid interference from the thruster's propulsion water flow from elements such as stern drives or trim tabs. Interfere will considerably reduce the thrust effectiveness.
- Avoid running cables near any heat sources since this might damage the insulation. Broken insulation could potentially lead to hazards and damage products.

For lithium batteries for proportional thruster systems:

MC_0502

If a lithium battery system is installed to supply proportional thrusters such as SEP and E-series thrusters, ensure the battery is designed to output a continuous supply of the required thruster current. An under-rated battery management system can suddenly disconnect the load which may lead to dangerous situations. Ensure that you operate with high-quality batteries intended for maritime use.

- All Sleipner proportional thrusters will work well with Lithium batteries, as the included PPC unit will control the output voltage to safe levels for the thruster. ***(NB: Ensure you have the latest embedded software installed. The firmware version of the Proportional Power Controller (PPC) must be of version 1.033 or later if the PPC is connected to a lithium battery).***
- All Sleipner eVision / E-series thrusters have built-in functionality to limit the maximum voltage delivered to the thruster.

(NB: Operating the thruster outside specified ratings will void the warranty).

For Sleipner S-Link™ systems:

MC_0105

- When installing an S-Link™ system, connect ONLY original Sleipner S-Link™ products or other authorized control equipment directly to the S-Link™ bus. When connecting non-authorized third-party equipment, it must always be connected through a Sleipner-supplied interface product.
- Any attempt to directly control or connect to the S-Link™ control system without a designated and approved interface from Sleipner will void all warranties and responsibilities of the connected Sleipner products. If you interface the S-Link™ bus by agreement with Sleipner through a designated Sleipner-supplied interface, you are still required to install at least one original Sleipner control panel to enable efficient troubleshooting if necessary.

For Ignition Protected systems:

MC_0007

CAUTION

NEVER Disassemble any part of the Ignition Protected assembly. Tampering with the Ignition Protected assembly will cause it to lose this safety feature. If there is a problem with your Ignition Protected motor, please contact your dealer.

Responsibility of the installer

MC_0440

For Sleipner eVision electric motors:

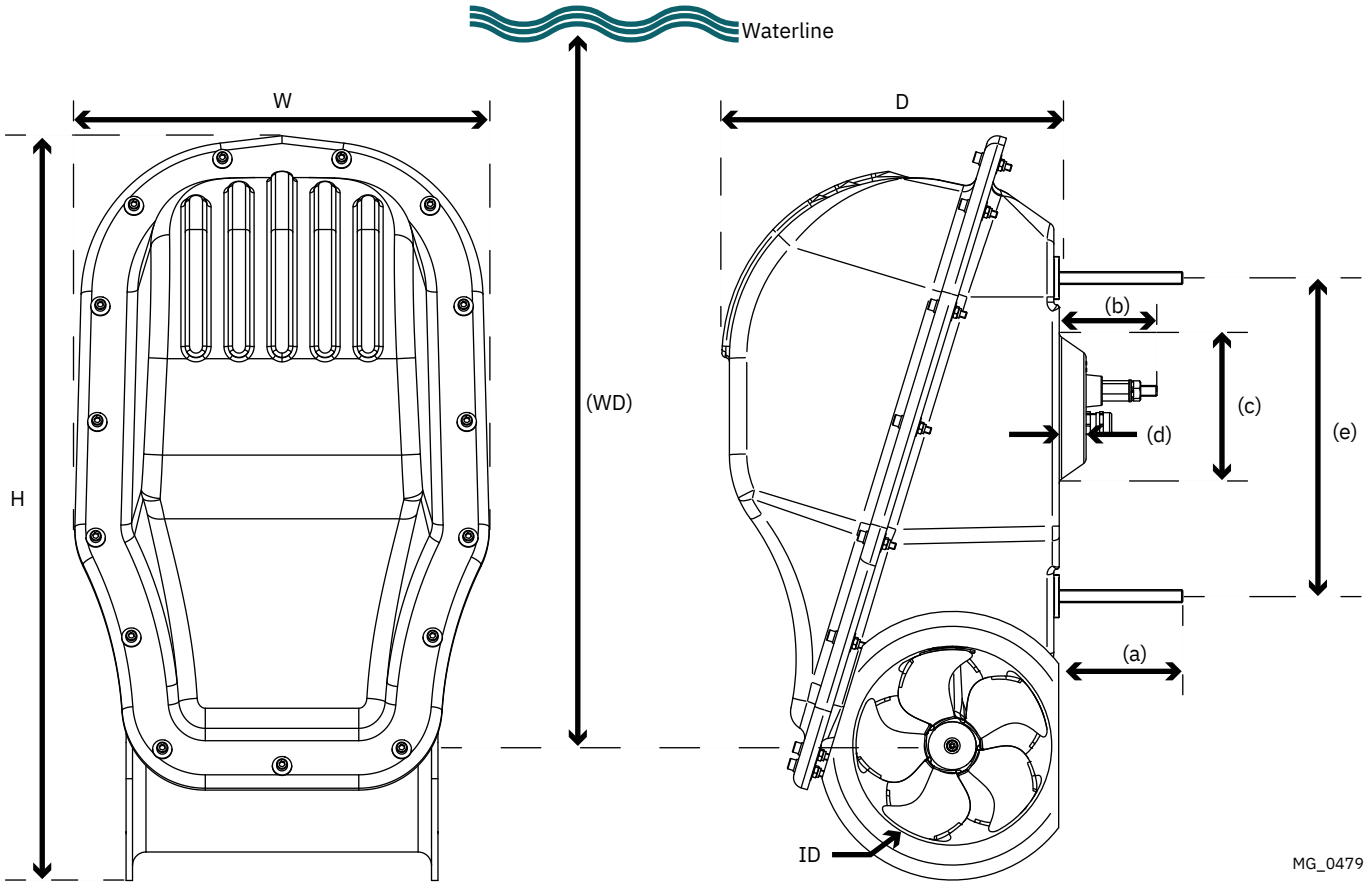
MC_0452

- When installing the thruster electric motor in small compartments, ensure the compartment is well ventilated to allow for cooling of the electric motor.
- If the height of the room you are installing the thruster is limited, the thruster can be installed horizontally or at any angle in-between.
  - If the electro motor is positioned more than 30 degrees off vertical, it must be supported separately.
  - Beware of keeping installation within advised measurements. No part of the propeller or gear house must be outside the tunnel.
- The electric motor, components and cables must be mounted so they remain dry at all times.
- Do not finish the inside of the tunnel with a layer of gel-coat/ topcoat or similar. There is only room for a thin coat of primer and two layers of anti-fouling between the tunnel and the props.
- Do not install the electric motor close to easily flammable objects or equipment.
- Do not store items close to the thruster motor. Any loose items near the thruster motor is a potential fire hazard and can cause undesired short-circuiting.
- Do not lift it by internal cable connections, main terminals.
- The thruster power supply circuit must include the recommended sized fuse and a battery isolation switch.
- The electric/ hydraulic motor must be handled with care. Do not rest the thruster motor on its drive shaft as its weight can damage the shaft.
- eVision Thruster Motor must be upgraded to firmware version V1.015 or newer. eVision Thruster Motors shipped before November 28. 2022 needs to be upgraded.
- Control panel PJC2xx must be upgraded to firmware version V3.018 or newer. Control panel PJC2xx with hardware V2.000 or older will not support eVision Thruster Motors. Sleipner stopped the production of PJC2xx with HW version V2.000 in Q2 2020. Note that no mechanical modifications are required to replace older PJC2xx panels with PJC2xx HW version V3.000 or newer. Hardware version can be found in the panel info menu or using S-Link programmer. From HW version V3.000, the version is printed on the serial number label. Control panel PJC42x must be upgraded to firmware version V1.002 or newer. Control panel PJC3xx will not support eVision Thruster Motors.
- Retract controller 150000 must be upgraded to firmware version V1.036 or newer. Function must be configured to “ERV/ERL” on both 150000 and eVision Thruster Motor. Retract controller SR 6 1242 will not support eVision Thruster Motors.
- Automatic Main Switch works with eVision Thruster Motor without additional firmware update. But an upgrade to the latest firmware is always recommended.
- Gateway works with eVision Thruster Motor without additional firmware update. But an upgrade to the latest firmware is always recommended.
- ESI-1 works with eVision Thruster Motor without additional firmware update. But an upgrade to the latest firmware is always recommended.
- S-link remote controller works with eVision Thruster Motor without additional firmware update. But an upgrade to the latest firmware is always recommended.

Product dimensions

MC_0995

Dimension code	Dimension description	SXE100 24V mm	inch
H	Height	696	27.4
W	Width	393	15.47
D	Depth	342	13.46
WD	Water depth	185	7.28
ID	Internal Diameter	185	7.28
(a)	Reference technical drawing	115.5	4.55
(b)	Reference technical drawing	91	3.58
(c)	Reference technical drawing	140.2	5.52
(d)	Reference technical drawing	25	0.98
(e)	Reference technical drawing	296	11.65



Product specifications

MC_0996

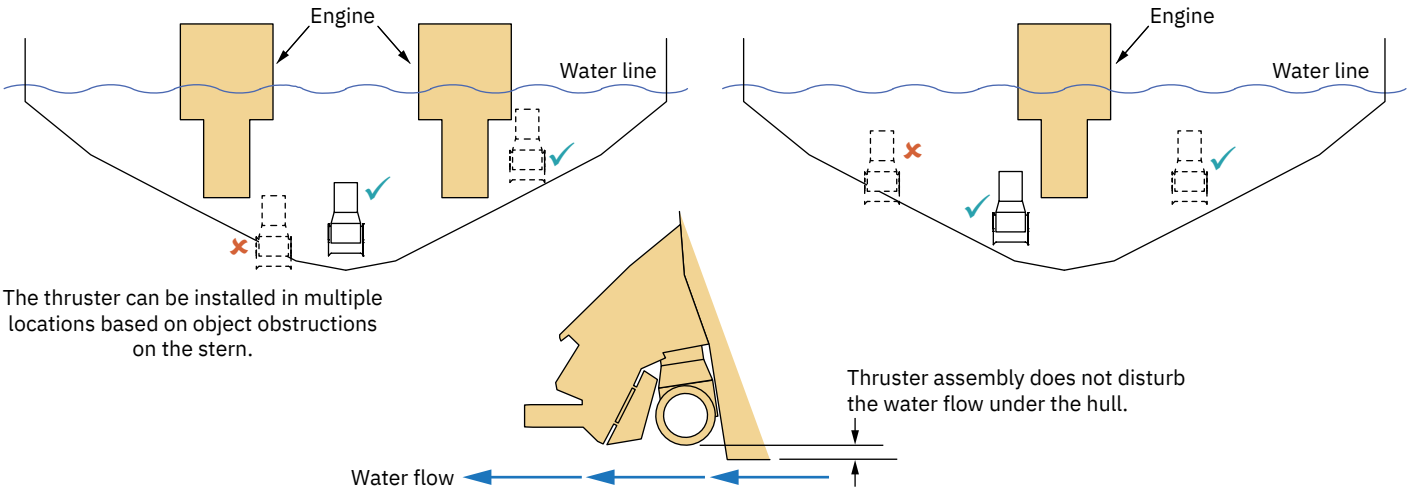
Product	Nominal Operating Voltage*	Maximum Operating Voltage	Thrust at nominal operating voltage	Power Output	Weight	Maximum Operation Time
SXE100	21V	31V	100kg / 220 lbs (21V)	5.6 kW / 7.6 hp	TBA	Runtime at 100% thrust: Continuous at 22°C ambient, typically limited by battery capacity

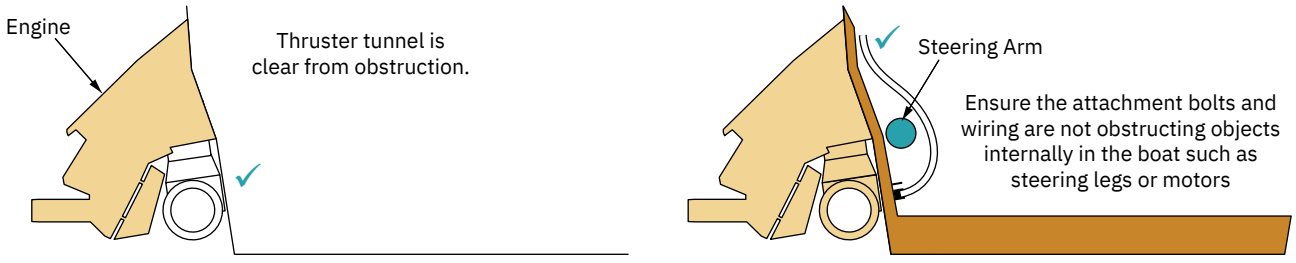
Install the thruster as deep on the stern as possible for the best performance.
Installing the thruster as deep as possible ensures:
1. The thruster does not suck air from the surface, which will reduce performance and increase operational noise levels.
2. A deeper installation naturally increases the strength in maneuvering the vessel.

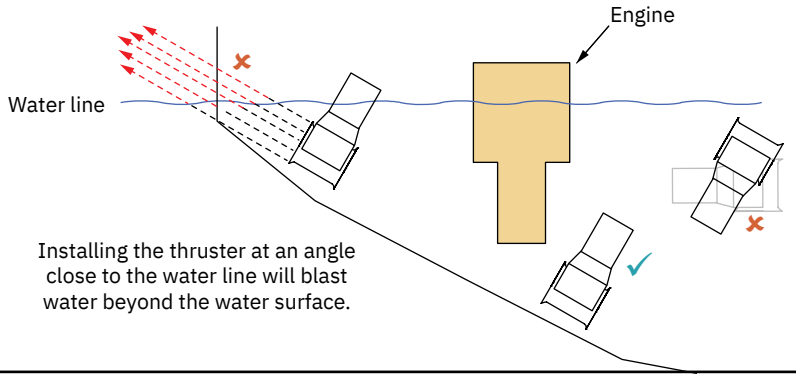
Ensure that the chosen location does not cause the thruster to disturb the water flow under the hull as the vessel travels. If the thruster is installed in the path of the water flow, the thruster can be damaged and add additional drag. Unwanted water splashing can also be a result.

Ensure other objects do not obstruct the propeller's water flow from the SX thruster. Objects that obstruct the water flow from the thruster will significantly reduce the thruster efficiency.
To avoid any external or internal obstructions on the vessel, it may be necessary to install the thruster off-center

Alignment
The thruster can be installed at a slight angle to avoid obstructions in the water flow. These obstructions can include propeller systems, trim tabs, or the hull. The thruster propels water with an average speed of 5-7 meters per second, therefore angled installations must be as deep as possible under the water to minimize spray breaking beyond the water's surface.
Install the thruster at an angle only as a last resort if no other appropriate location is available.







CAUTION
Do not install the SX thruster inverted or at an angle that hinders its intended function.

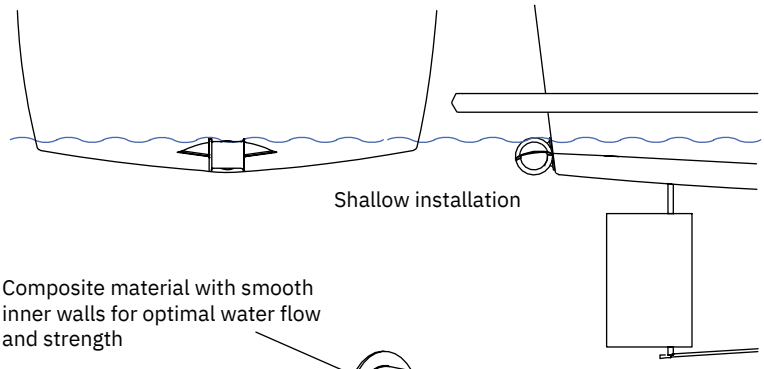
MG_0109

Guide for Installation of Thruster Cowls

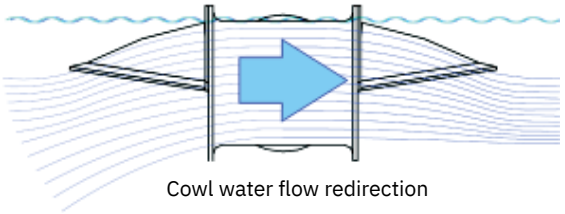
MC_0072

Sleipner cowls allow for increased flexibility in the thruster installation location.

Specifically, they redirect the propeller's water flow to avoid obstructions on the stern, such as trim tabs, jets, or other propulsion systems. In addition, they reduce surface air entering the tunnel, allowing for shallow installations and allowing for installations in boats with shallow drafts.



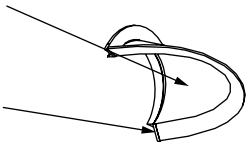
Shallow installation



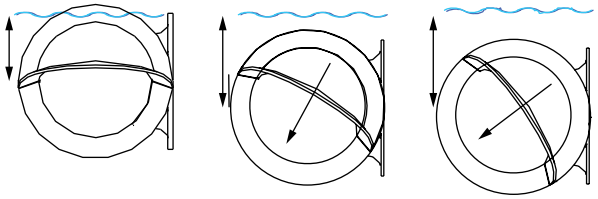
Cowl water flow redirection

Composite material with smooth inner walls for optimal water flow and strength

Radius corners prevent turbulence



An angled edge further preventing air attraction into the tunnel



Angled cowls out of horizontal, must be installed deeper to avoid air entry in the thruster tunnel

Cowls to change the water flow direction to avoid obstructions on the stern

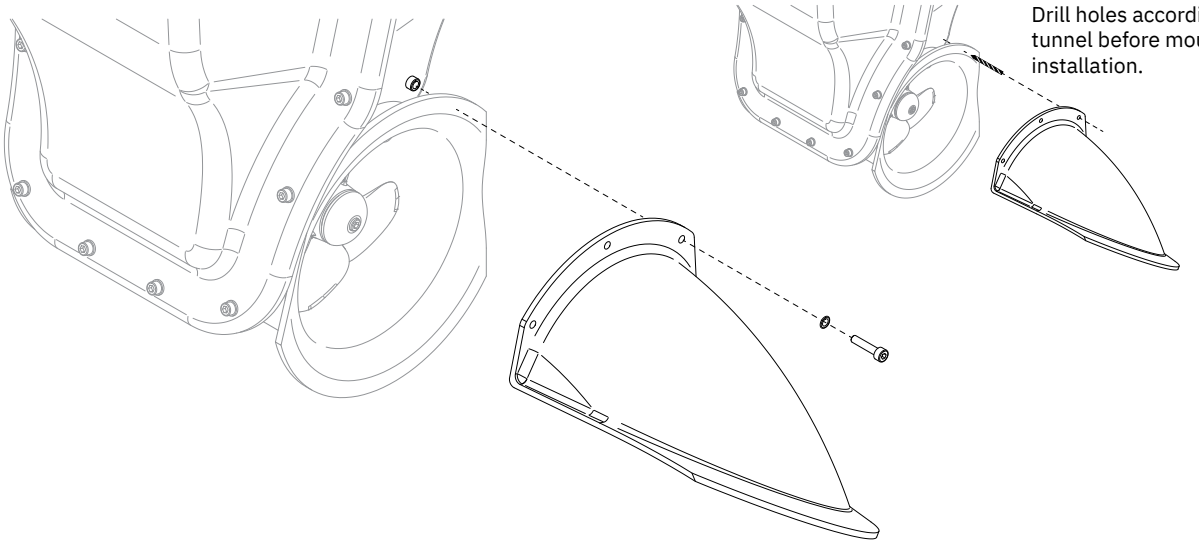
Cowls help prevent air from the water surface entering the tunnel in shallow installations

MG_1023

Grids or Cowls assembly

MC_0074

1. Attach the cowls or grids with included bolts. ***(NB: If installation of the cowls ensure the appropriate twist of the cowl to direct water away from obstacles. Cowls are not used in combination with the hydropod.)***



Drill holes according to cowls on the tunnel before mounting for easy installation.

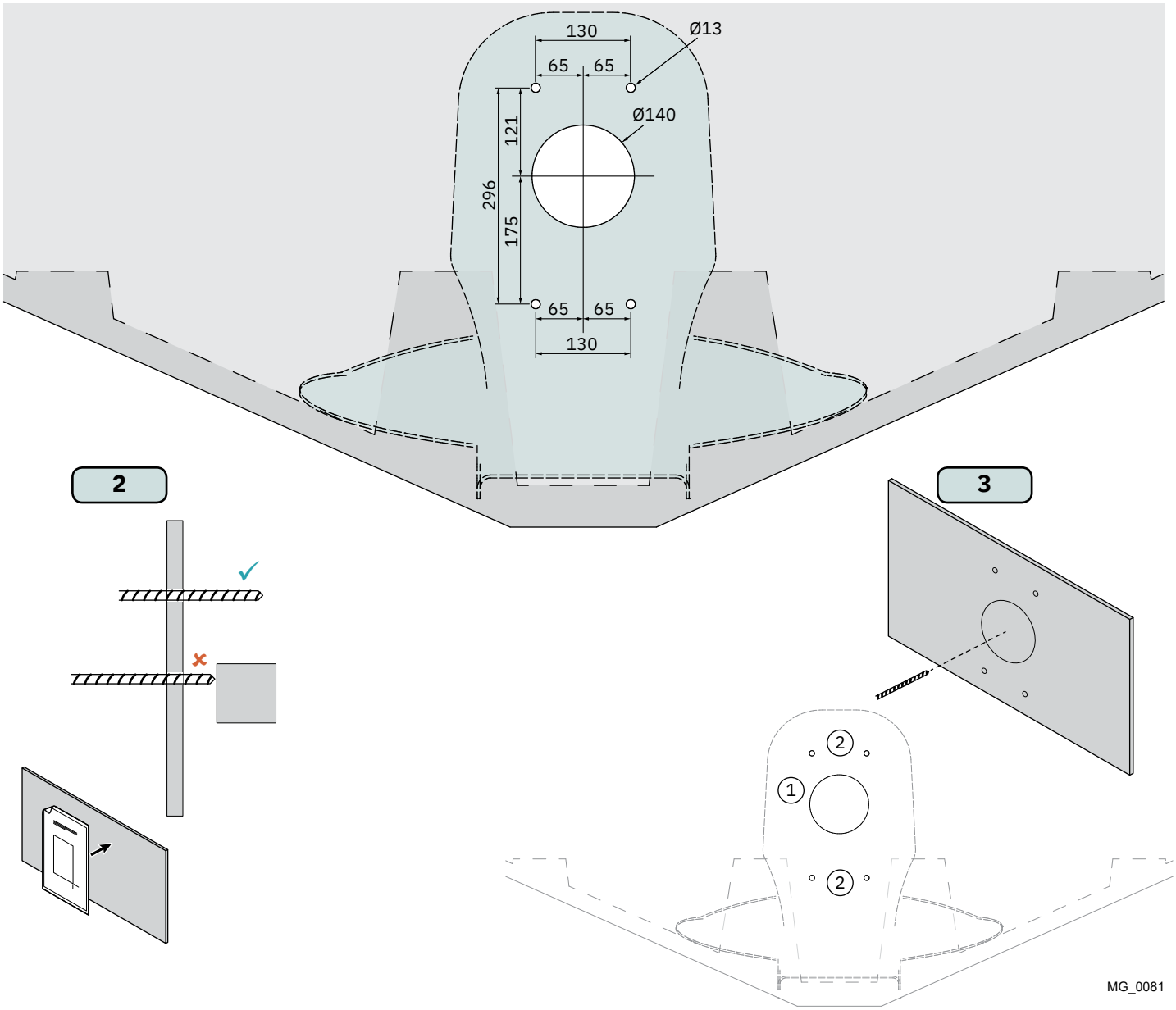
MG_1021

1. Decide the location to install the thruster based on the recommendations given in the Thruster Position Guide chapter.

2. Verify before drilling that the holes will not conflict with internal objects or necessary structural hull framing.
   (NB: If included use the drilling template provided to asssits in the location of the holes that will attach the thruster to the vessel.)

3. First drill the main central hole followed by the supporting bolt holes. After drilling all holes, clean the area from dust before mounting the SX thruster.

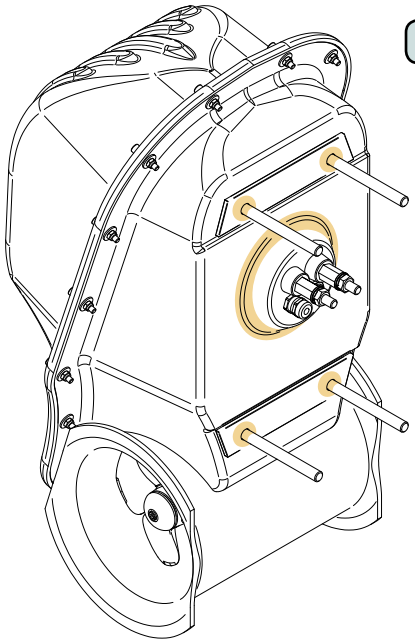
CAUTION
It is important that the thruster assembly sits flush on the transom. If necessary the hull may require modification to achieve the assembly sits flush.



4. Apply MS Polymer sealant or equal around the base edge of the central connector protrusion (cable connections) and around the 4 threaded bolt rods to make a water tight fitting.

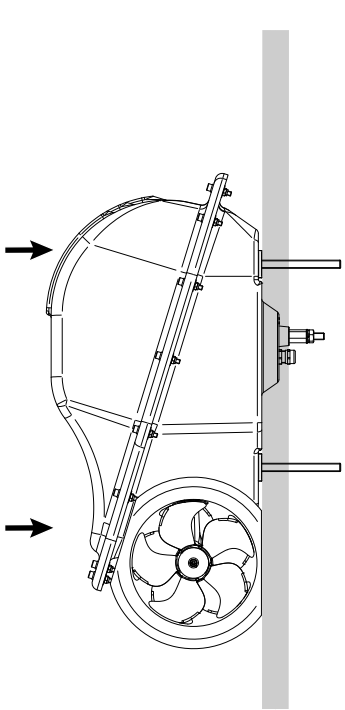
5. Insert the SX thruster and fasten with washers, nuts and locking nuts.
Tighten the nuts in a cross pattern according to the numbering in the illustration, and in several rounds, with a torque for each round according to the table below.
(Ensure the thruster cables internally do not obstruct any objects. Do not place cables or control box close to high heat radiating parts EG. Turbo/ exhaust manifolds etc.)

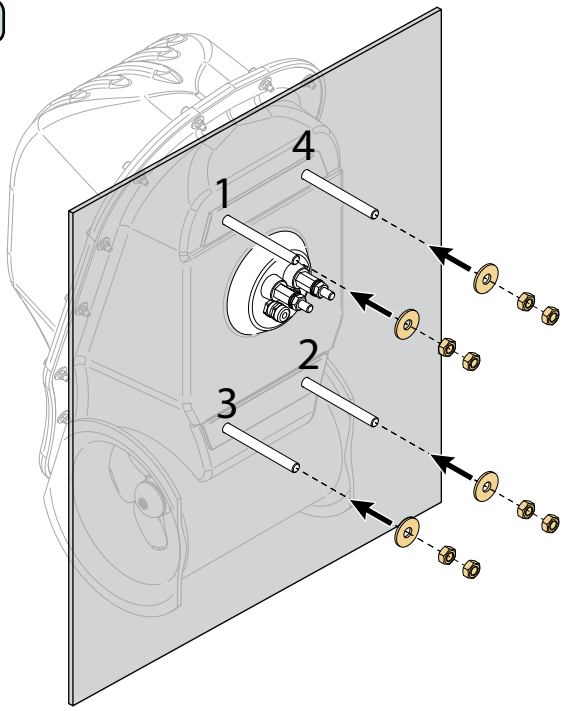
4



Tightening sequence		
Round	Tightening torque	
	Nm	lb/ft
1	5	3,68
2	50	36,88
3	110	81,13

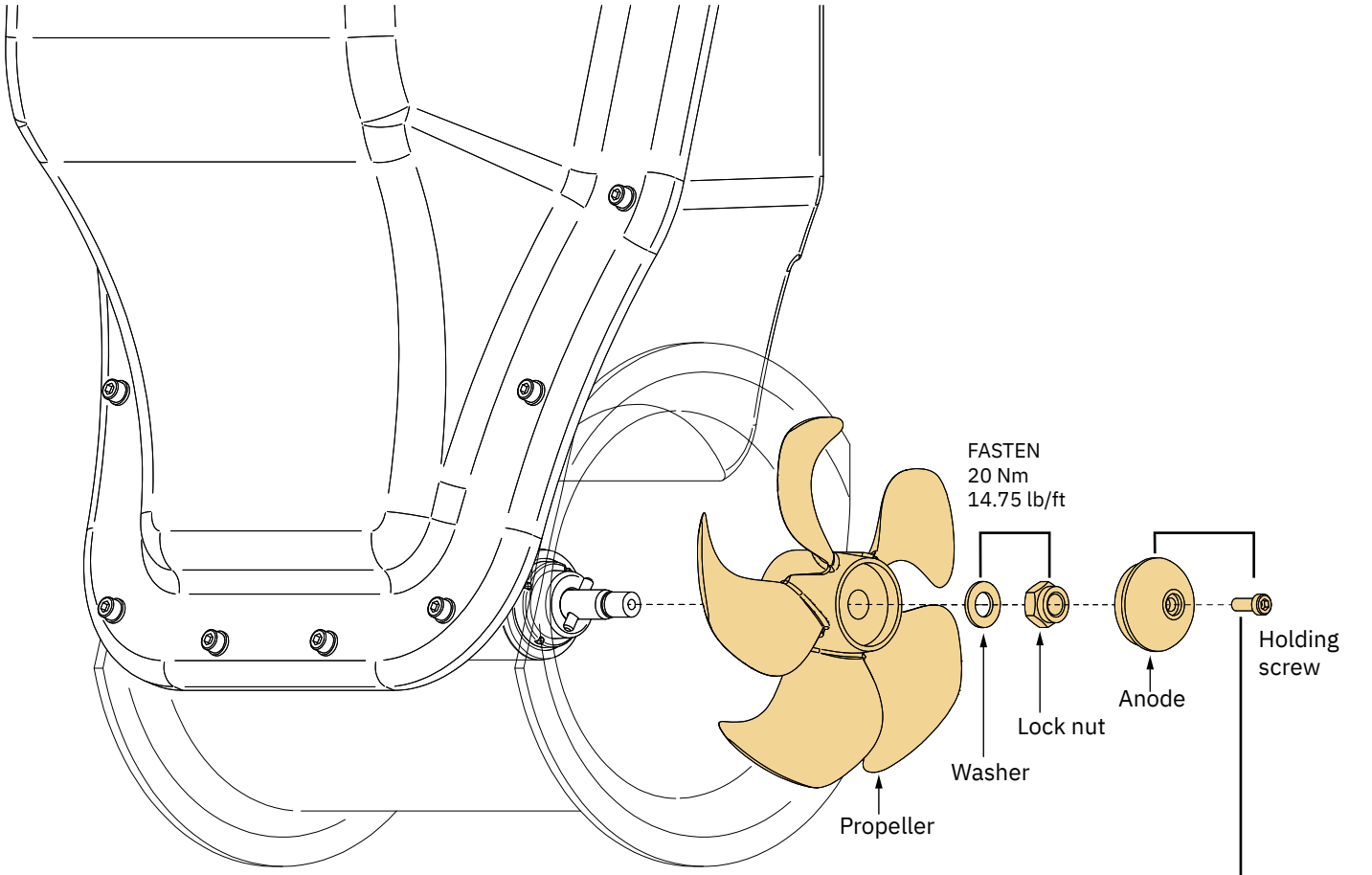
5

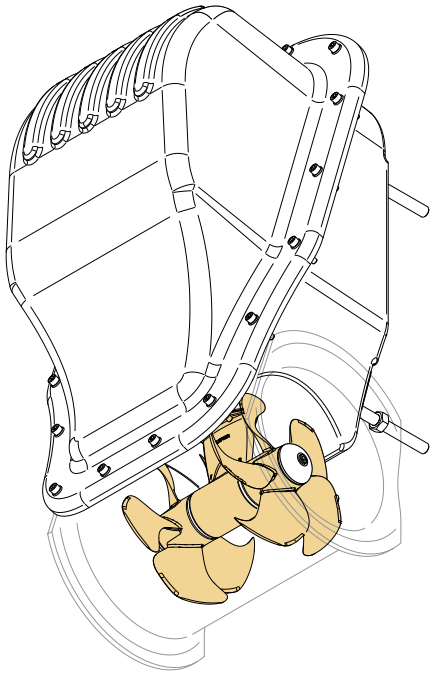


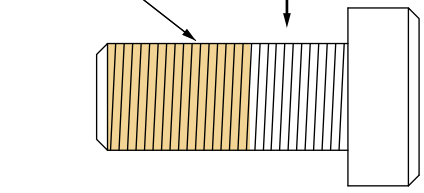


MG_0083

1. Apply anti-fouling to the gear leg and propeller. Do not apply anti-fouling to any rubber elements of the gear leg or anodes.
2. Centre the drive pin and insert the propeller onto the shaft spine. Rotate the propeller until the drive pin aligns with the internal slot in the propeller.
3. Insert the washer and tighten the propeller lock-nut to secure the propeller.
4. Insert the anode into the propeller and tighten the anode holding screw. Apply thread glue (Loctite 243 or similar) to ensure that the anode holding screw does not unscrew itself during operation. Tighten the anode holding screw







1. Plan the location of electrical components before starting with the electrical installation. Main electrical components will typically consist of battery, Automatic Main Switch (AMS) or manual main switch and motor, see Wiring Diagram chapter for an overview.

CAUTION
Automatic Main Switch (AMS) must be supplied with 24V only (Use AMS serial No.0 017664 or higher)

2. Estimate the total length of the power cables to determine the recommended cross section. The total power cable length is defined as the distances from the positive battery terminal, via fuse, main switch and motor and all the way back to the negative battery terminal.

3. Find the recommended power cable cross section for the installation by using the estimated total power cable length and the table shown in chapter *Electrical Reference Guide*.

4. Find the recommended fuse size by using the table shown in chapter *Electrical Reference Guide*. Use slow blow rated fuses to hold stated nominal current for minimum 5 minutes.

5. Use appropriate dimensioned battery with Cold Cranking Amps (CCA) according to recommendations given in the Electrical Reference Guide chapter. Battery voltage must be compliant with the voltage rating of the thruster motor and control circuitry. Capacity and rated discharge current of battery should be according to rated nominal current drawn and typical duty cycle for thruster operation. Nominal current drawn is listed in the Electrical Reference Guide chapter. Using smaller cross section than recommended or low-capacity battery could reduce performance.

   Installing a battery close to the thruster reduces the length of the power cables and potentially increase the performance, due to lower voltage drop in the power cables. Thus for installations on large vessels with bow and stern thrusters or catamarans a dedicated battery to each thruster should be considered.

6. Install and connect the battery, fuse, main switch and wiring according to instructions in the Wiring Diagram chapter. For safety reasons it is always recommended to install a fuse and a main switch on the power cables and as close as possible to the positive battery terminal. The main switch must be installed such that it is easily accessible so that the thruster can be electrically disconnect to a safe state when not on-board or in the case of an emergency.

   For dual thruster systems using only one battery bank a dedicated AMS with fuse should be installed for each thruster. These should be installed close to the battery banks.

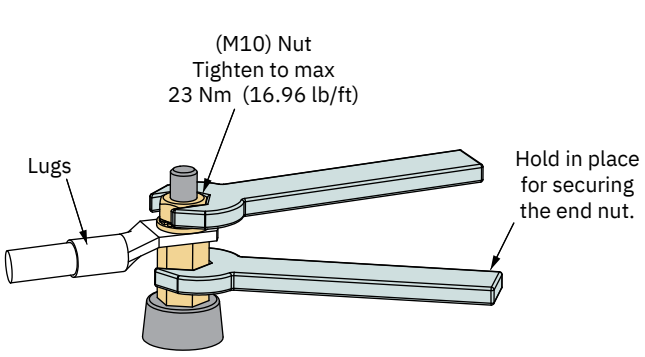
   Follow the instructions in the *Motor Lug Connection* chapter when fastening the power cables to the motor.

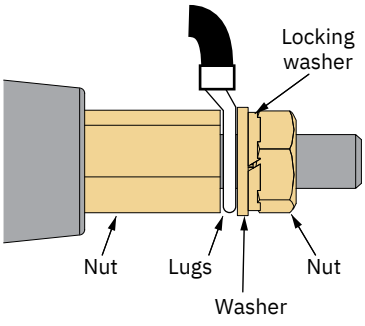
   Sleipner AMS is controlled by the control panel in addition to the option of manual operation. Turning on the control panel also turn on the AMS. When the control panel is turned off the AMS is turned off. This ensures that the control electronics and motor is only energized when the control panel is turned on. Ensure to select a main switch with voltage rating according to the chosen motor- and battery-voltage. The AMS requires separate power supply which should be protected by a dedicated fuse.

CAUTION
Battery terminal polarity must be observed and connected correctly

7. Install control panel according to instructions in the Installation Guide accompanying the control panel to be installed.

CAUTION
After all electrical connections have been completed, turn off main switch and check the following with an ohmmeter:
1. There is no electrical connection between motor flange and the positive terminal on the motor.
2. There is no electrical connection between motor flange and the negative terminal on the motor.
If unsure contact skilled personnel.





MG_0087

Model Size	System Voltage	Nominal current	Min. battery CCA	Rec. fuse	Cross Section Guide for Power Cables											
					Unit	<7m total + & -		7-14m total + & -		15-21m total + & -		22-28m total + & -		28-35m total + & -		36-45m total + & -	
						Min.	Rec.	Min.	Rec.	Min.	Rec.	Min.	Rec.	Min.	Rec.	Min.	Rec.
SXE 100/185T	24V	290A	DIN: 290 SAE: 551 EN: 493	ANL 250	mm²	50	50	50	70	70	95	95	120	120	2 x 95	2 x 95	2 x 120
					AWG	1/0	1/0	1/0	2/0	2/0	3/0	3/0	4/0	3/0	2 x 3/0	2 x 3/0	2 x 40

eVision thrusters have high efficiency and can therefore offer long run times. The proposed cable cross sections in above table are only for reference. Dependent on system voltage, the stated nominal current is measured with 21V or 42V at the motor terminals.

Lover voltage level at the motor terminals will increase the current drawn by the thruster. To avoid significant voltage drop and excessive heat generation in cables and other system components selection of battery and cable cross section is critical.

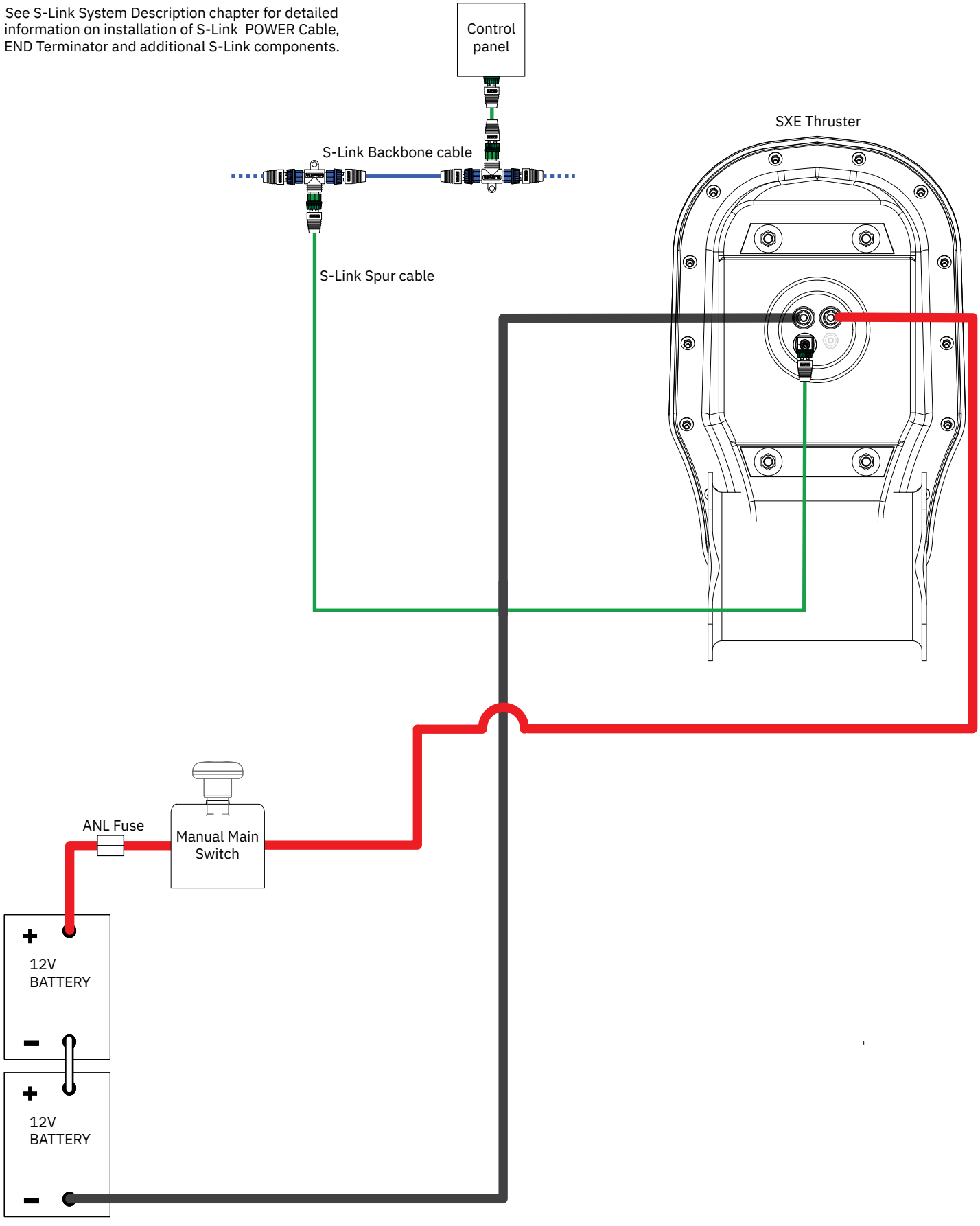
Higher current consumption can also be caused by incorrect thruster installation and marine growth in the tunnel and on the propeller.

Current draw will depend on many factors such as but not limited to:
- Voltage drop
- Battery health
- Cable lengths and dimensions
- Performed tunnel installation
- Ventilation
- Obstructing marine growth

For each installation an experienced electrician should be consulted for cable cross section calculations and selection of fuses, main circuit and batteries.

Manual Main Switch Wiring Diagram 24V SXE Thruster

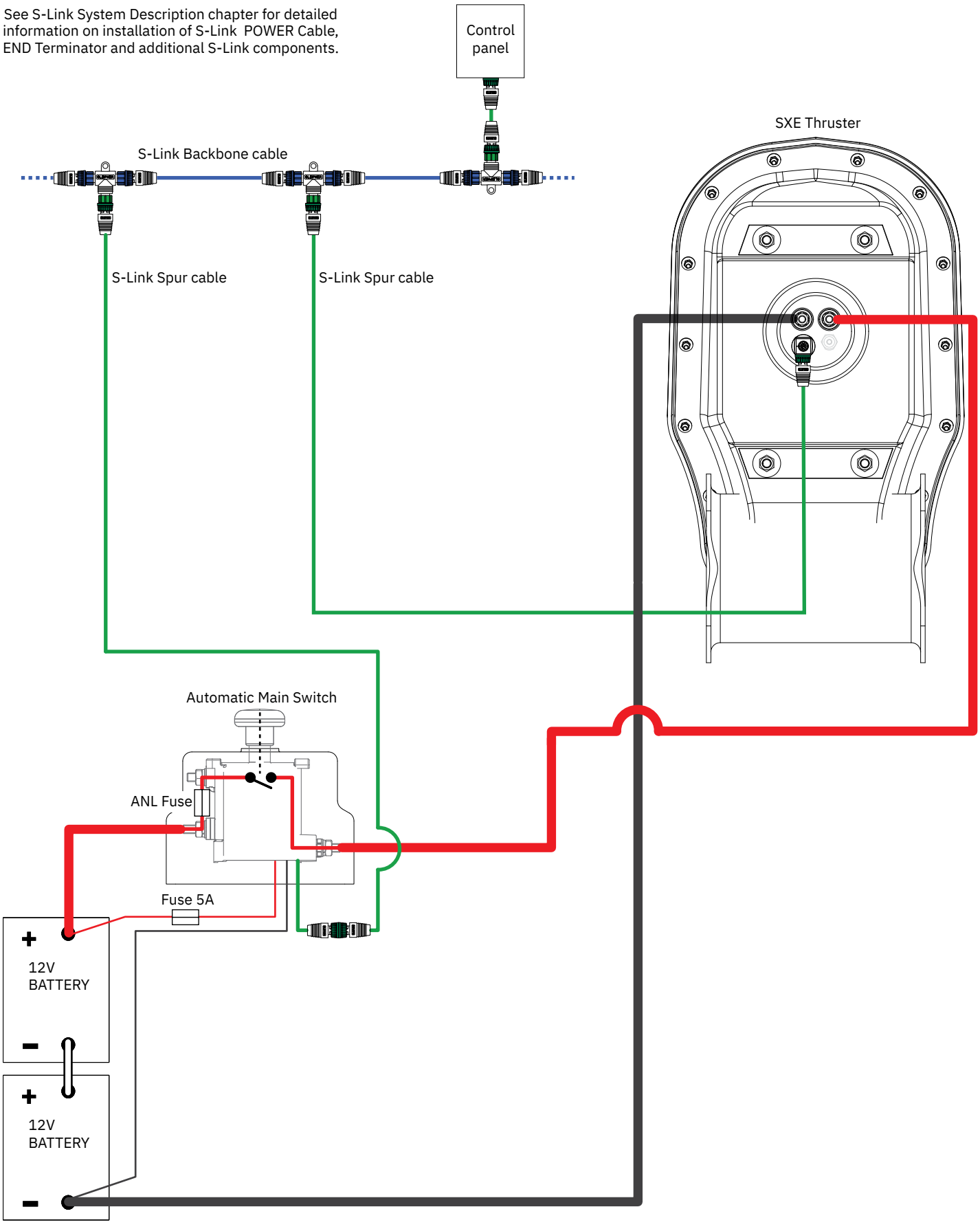
See S-Link System Description chapter for detailed information on installation of S-Link POWER Cable, END Terminator and additional S-Link components.



MG_01005

Automatic Main Switch Wiring Diagram 24V SXE Thruster

See S-Link System Description chapter for detailed information on installation of S-Link POWER Cable, END Terminator and additional S-Link components.



MG_01006

S-Link system description

MC_0120

S-Link is a CAN-based control system used for communication between Sleipner products installed on a vessel. The system uses BACKBONE Cables as a common power and communication bus with separate SPUR Cables to each connected unit. Only one S-Link POWER cable shall be connected to the BACKBONE Cable. Units with low power consumption are powered directly from the S-Link bus.

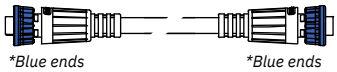
Main advantages of S-Link system:
- Compact and waterproof plugs.
- BACKBONE and SPUR Cables have different colour coding and keying to ensure correct and easy installation. BACKBONE Cables have blue connectors and SPUR Cables have green connectors.
- Different cable lengths and BACKBONE Extenders make the system scalable and flexible to install.

Installation of S-Link cables:
Select appropriate cables to keep the length of BACKBONE- and SPUR Cables to a minimum. In case of planned installation with total BACKBONE Cable length exceeding 100 meters please consult your local distributor. The S-Link cables should be properly fastened when installed to avoid sharp bend radius, cable chafing and undesired strain on connectors. Locking mechanism on connectors must be fully closed. To ensure long lifetime, cables, T-Connectors and Extenders should not be located so that they are permanently immersed in water or other fluids. It is recommended to install cables in such a way that water and condensation do not flow along the cables into the connectors. This can be done for example by introducing a u-shape bend before the cable enters the product connector.

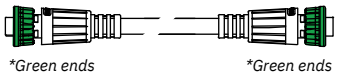
Ideally, the POWER Cable should be connected to the middle of the BACKBONE bus to ensure an equal voltage drop at both ends of the BACKBONE Cable. The yellow and black wire in the POWER Cable shall be connected to GND and the red wire connected to +12VDC or +24VDC.

To reduce the risk of interference, avoid routing the S-Link cables close to equipment such as radio transmitters, antennas or high voltage cables. The backbone must be terminated at each end with the END Terminator.

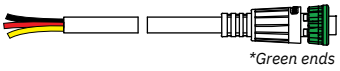
SPUR cables can be left unterminated to prepare for the installation of future additional equipment. In such cases, ensure to protect open connectors from water and moisture to avoid corrosion in the connectors.



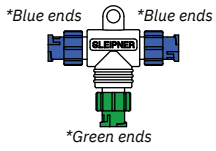
BACKBONE Cable
Forms the communication and power bus throughout a vessel. Available in different standard lengths.



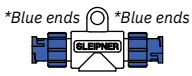
SPUR Cable
Used to connect S-Link compliant products to the backbone cable. One SPUR Cable must be used for each connected component, with no exceptions. Recommended to be as short as practically possible. Available in different standard lengths.



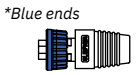
POWER Cable
Required in all installations for connection of BACKBONE Cable to a power supply and should be protected with a 2A fuse.



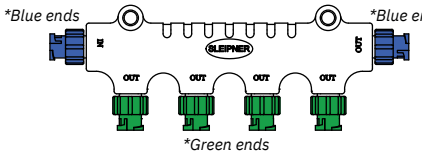
T-Connector
Used for connection of SPUR or POWER Cable to the BACKBONE Cable. One T-Connector for each connected cable.



BACKBONE Extender
Connects two BACKBONE Cables to extend the length.

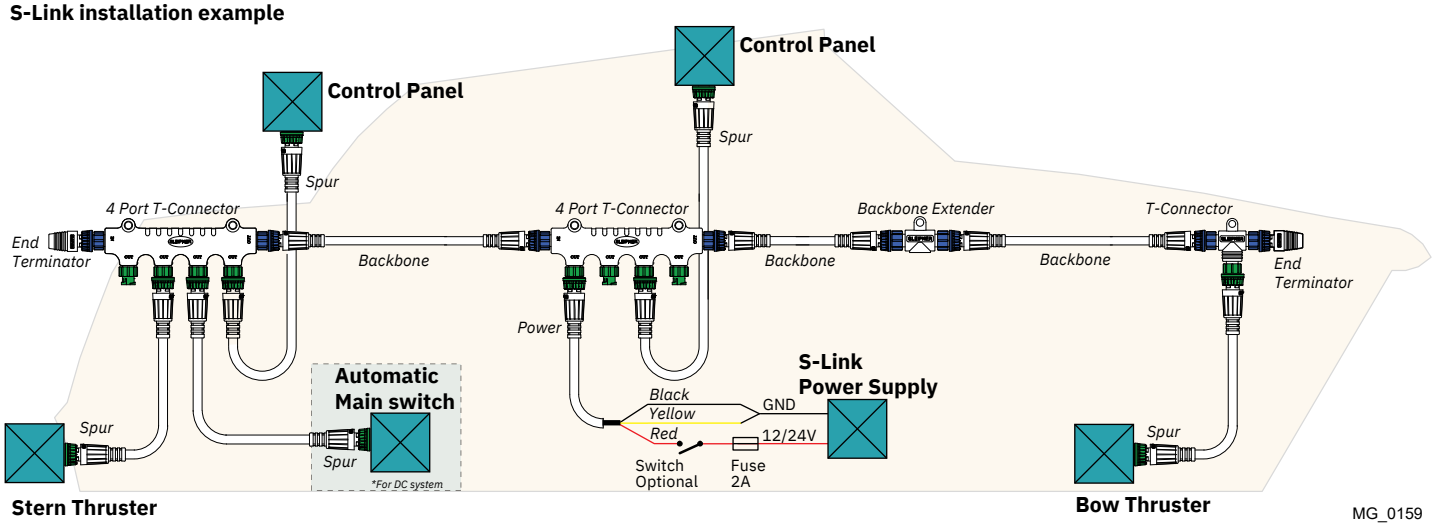


END Terminator
Must be one at each end of the BACKBONE bus.



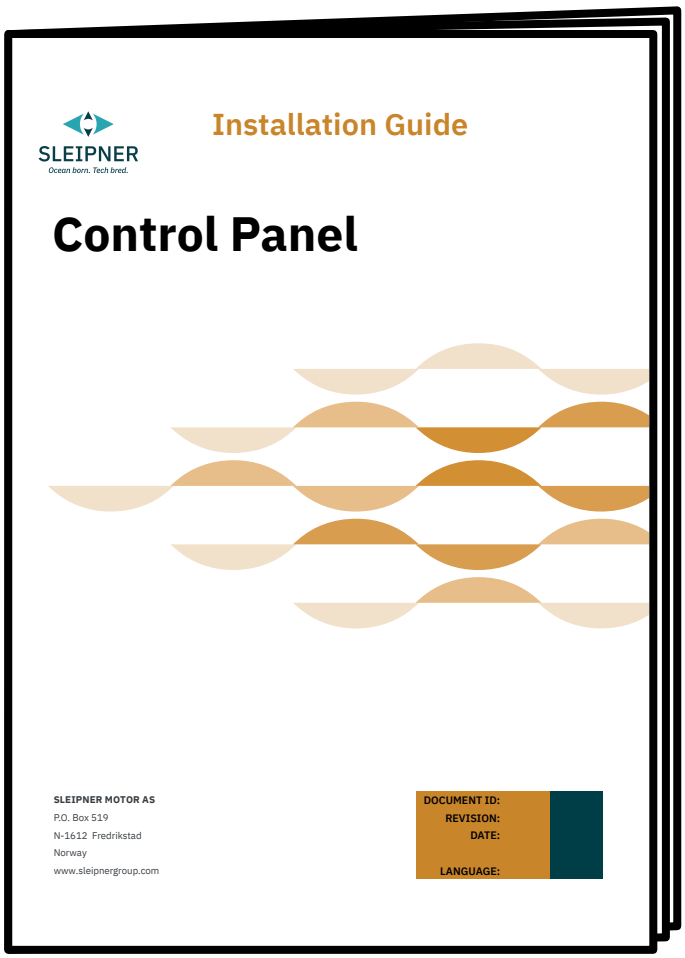
4-Port T-Connector
The 4-PORT T-connector allows multiple SPUR Cables to be connected. The 4-PORT T-connector comes with two sealing caps to protect unused ports.

S-Link installation example



MG_0159

For **Control Panel** installation please refer to the Installation Guide accompanying the control panel to be installed.



Post-Installation Checklist

☐..... Propeller is fastened correctly to the shaft.

☐..... Propeller turns freely in tunnel.

☐..... Primer and anti-fouling have been applied to the gear house and propeller but NOT on the anode or the gear house lid where the propeller is fastened. ***(NB: Do not use abrasive tools damaging the existing Epoxy coating when preparing for antifouling paint.)***

☐..... Correct drive direction as per control panel.

☐..... The bolts holding the thruster to the hull are tightened correctly.

☐..... All electrical connections are clean, dry and tight, and the correct cable, fuse and main switch size.

☐..... No water leakage around hull penetrated studs

The thruster has been installed as per the instructions in this manual and all points in checklist above have been controlled.

Signed: .....

Date: .....

Extra pre-delivery tests by installer / yard who does not use other quality control systems !

Thruster type: .....

Serial number:.....

Date of delivery:.....

Correct drive direction as per control panel: .....

The compartment for the thruster has been isolated from general bilge water and has no obvious or suspected risks for flooding:

.....

.....

.....

Other comments by installer: .....

.....

.....

.....

Sleipner Group Waste Disposal and Recycling Guide

MC_0848

Introduction:
At Sleipner Group, we prioritize sustainability and encourage the repair and re-manufacturing of products to extend their life cycles. If disposal is necessary, please follow these guidelines to recycle and manage waste responsibly, ensuring our efforts align with environmental protection efforts.

Electric Motors and Electronics:
- Disconnect from any power sources and dismantle them carefully.
- Recycle components through certified e-waste recycling centers that can adequately handle and recover electronic materials.
- Dispose of any non-recyclable electronic parts according to local environmental regulations.

Metals:
- Collect and sort metal parts for recycling as scrap metal.
- To increase recycling efficiency, ensure that metals are clean and free from non-metal attachments.

Plastics:
- Identify recyclable plastics based on local recycling guidelines.
- Remove any non-plastic components and clean them before recycling to improve the quality of the recycled material.

Hazardous Materials:
- Correctly identify any hazardous substances within components, such as batteries or capacitors etc.
- Follow local regulations for the safe disposal of hazardous materials to prevent pollution and protect environmental health.

General Disposal Instructions:
- Consult local recycling programs to determine the acceptability of various materials.
- Use authorized disposal services to ensure compliance with environmental standards.

Safe Disposal Practices:
- Adhere to local laws and regulations for waste management to minimize environmental impact and ensure community safety.

This guide is designed to help reduce our products' environmental footprint through responsible end-of-life management. Please contact your local waste management supplier or our support team for more specific disposal information or further assistance.

Service and support

MC_0024

Find your local professional dealer from our certified worldwide network for expert service and support. visit our website www.sleipnergroup.com/support

Product spare parts and additional resources

MC_0024

For additional supporting documentation, we advise you to visit our website www.sleipnergroup.com and find your Sleipner product.

Warranty statement

MC_0024

1. Sleipner Motor AS (The “Warrantor”) warrants that the equipment (parts, materials, and embedded software of products) manufactured by the Warrantor is free from defects in workmanship and materials for purpose for which the equipment is intended and under normal use and maintenance service (the “Warranty”).
2. This Warranty is in effect for two years (Leisure Use) or one year (Commercial and other Non-leisure Use) from the date of delivery/purchase by the end user, with the following exceptions;
   (a) For demonstration vessels, or vessels kept on the water, the dealer is considered as the end user from 6 months after their launch of the vessel;
   (b) The warranty period starts no later than 18 months after the first launch of the vessel.
   Please note that the boat manufacturer and dealer must pay particular attention to correct maintenance and service both by the products manuals as well as general good practice for the location the boat is kept in the period the boat is in their care. In cases where the 6 and 18 months grace periods for boat builders and dealers are passed, it is possible to obtain a full warranty upon inspection and approval of the warrantor or such representative.
3. Certain parts, classified as wearable or service parts, are not covered by the warranty. A failure to follow the required maintenance and service work as described in the product manual render all warranty on parts or components directly or indirectly affected by this void. Please also note that for some parts, time is also a factor separately from actual operational hours.
4. This Warranty is transferable and covers the equipment for the specified warranty period.
5. The warranty does not apply to 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. In case the equipment seems to be defective, the warranty holder (the “Claimant”) must do the following to make a claim:
   (a) Contact the dealer or service centre where the equipment was purchased and make the claim. Alternatively, the Claimant can make the claim to a dealer or service centre found at www.sleipnergroup.com. The Claimant must present a detailed written statement of the nature and circumstances of the defect, to the best of the Claimant’s knowledge, including product identification and serial nbr., the date and place of purchase and the name and address of the installer. Proof of purchase date should be included with the claim, to verify that the warranty period has not expired;
   (b) Make the equipment available for troubleshooting and repair, with direct and workable access, including dismantling of furnishings or similar, if any, either at the premises of the Warrantor or an authorised service representative approved by the Warrantor. Equipment can only be returned to the Warrantor or an authorised service representative for repair following a pre-approval by the Warrantor’s Help Desk and if so, with the Return Authorisation Number visible postage/shipping prepaid and at the expense of the Claimant.
7. Examination and handling of the warranty claim:
   (a) If upon the Warrantor’s or authorised service Representative’s examination, the defect is determined to result from defective material or workmanship in the warranty period, the equipment will be repaired or replaced at the Warrantor’s option without charge, and returned to the Purchaser at the Warrantor’s expense. If, on the other hand, the claim is determined to result from circumstances such as described in section 4 above or a result of wear and tear exceeding that for which the equipment is intended (e.g. commercial use of equipment intended for leisure use), the costs for the troubleshooting and repair shall be borne by the Claimant;
   (b) No refund of the purchase price will be granted to the Claimant, unless the Warrantor is unable to remedy the defect after having a reasonable number of opportunities to do so. In the event that attempts to remedy the defect have failed, the Claimant may claim a refund of the purchase price, provided that the Claimant submits 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.
8. Warranty service shall be performed only by the Warrantor, or an authorised service representative, and any attempt to remedy the defect by anyone else shall render this warranty void.
9. No other warranty is given beyond those described above, implied or otherwise, including any implied warranty of merchantability, fitness for a particular purpose other than the purpose for which the equipment is intended, and any other obligations on the part of the Warrantor or its employees and representatives.
10. There shall be no responsibility or liability whatsoever on the part of the Warrantor or its employees and representatives based on this Warranty for injury to any person or persons, or damage to property, loss of income or profit, or any other incidental, consequential or resulting damage or cost claimed to have been incurred through the use or sale of the equipment, including any possible failure or malfunction of the equipment or damages arising from collision with other vessels or objects.
11. This warranty gives you specific legal rights, and you may also have other rights which vary from country to country.

Patents

MC_0024

At Sleipner we continually reinvest to develop and offer the latest technology in marine advancements. To see the many unique designs we have patented, visit our website www.sleipnergroup.com/patents

Learn more about our products at www.sleipnergroup.com

SLEIPNER
Ocean born. Tech bred.

SLEIPNER MOTOR AS
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N-1612 Fredrikstad
Norway
www.sleipnergroup.com
Made in Norway

MC_0030