

Marine Roof

Installation Instructions

BlueSky



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Improper installation or repair of Webasto sunroof systems can lead to serious injury or death.

To install and repair Webasto sunroof systems you need to have completed a Webasto training course and have the appropriate technical documentation, special tools and special equipment.

Only genuine Webasto parts may be used. See also accessories catalogue and spare parts lists.

NEVER try to install or repair Webasto sunroof systems if you have not completed a Webasto training course, you do not have the necessary technical skills and you do not have the technical documentation, tools and equipment available to ensure that you can complete the installation and repair work properly.

ALWAYS carefully follow Webasto installation and repair instructions and heed all WARNINGS.

Webasto rejects any liability for problems and damage caused by the system being installed by untrained personnel.



SYMBOLS



WARNING

Indication of danger of injuries or accidents



ATTENTION

Indication of danger of damaging the product



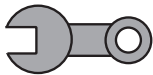
Further information can be found in following documents



Note on a special technical feature



Watch carefully



Mechanical tasks



Electrical connections

SCOPE OF DELIVERY

- Top frame (incl. mechanisms)
- Panel assembly (incl. toolbit for fixing screws)
- Rails, left and right and rail end caps (2 pcs)
- Grease Isoflex® Topas L32
- Installation Instructions
- Operating Instructions

MATERIALS REQUIRED

- Hardware to fix top frame and rear rails: screws M4 stainless steel, pan, dome or round head
- High quality, acid-free, UV resistant, silicon mastic sealant
- Loctite 243

NECESSARY TOOLS

- Drilling machine
- Drill \varnothing 3.2 mm
- Taps M4
- Torx® keys
- Mastic gun
- Screwdrivers

PERSONNEL

Perform roof installation with at least 2 persons. This makes the operation easier and reduces the risk of damage.

PROTECTION

Improper use of tools can lead to injuries or damage to the ship or roof!

Thoroughly read tool instructions prior to using.

Before using any specialized tools, make sure to know all rules and regulations for this equipment in your country.

Substances like glue, initiator or primer can be inflammable or harmful to your health when being touched or inhaled. Carefully follow the instructions on the package of the product. Check and act according to the laws and regulations in your country with reference to the use of this substance.

Wear a respiratory mask, make sure that the workplace is well ventilated and that there is a good functioning aspiration system.

Wear protective clothing like ear protection, safety shoes, safety goggles and protective gloves.

Cover parts of interior and exterior of the vehicle with protection materials (covers, cloths, etc.) to reduce the risk of damaging the vehicle.

1 Introduction

The BlueSky is an electrically operated sliding roof for ventilation purposes. The marine roof has been designed for a large range of applications and can be installed easily in various ships.

It is suitable for fitting in area III and usage for ship type with design-category B.

All parts are made from high corrosion resistant materials.

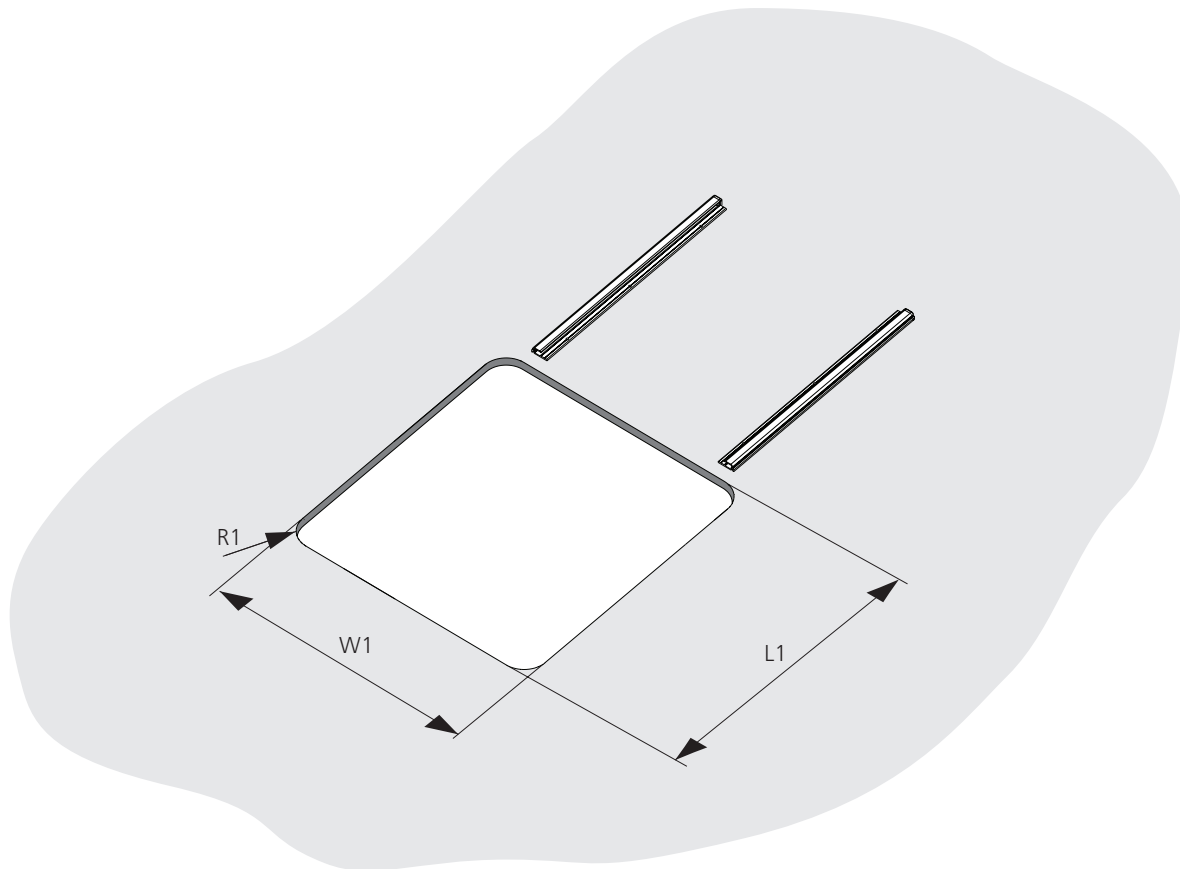
BlueSky sliding roofs are very easy to install and even retrofit is possible.

Product Benefits:

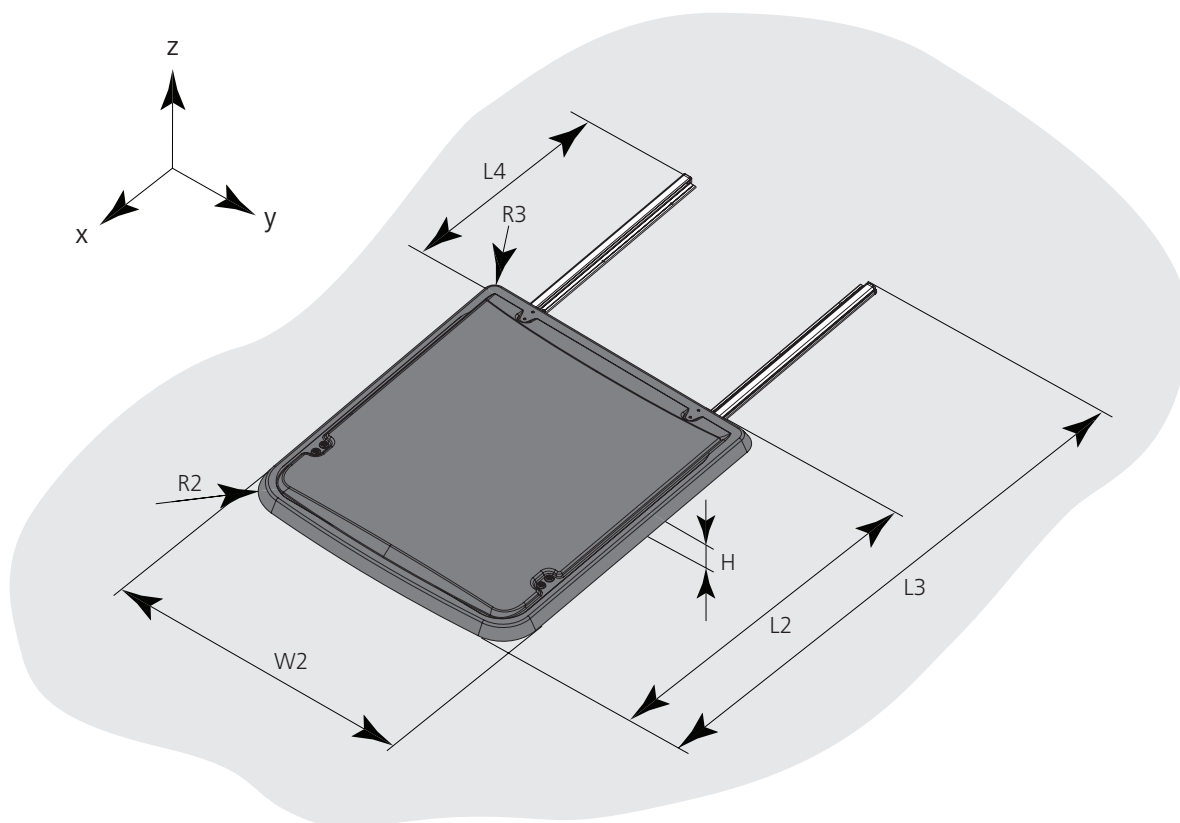
- Opens and closes quietly
- Suitable for ventilation of the cabin
- Electrical operation
- Large opening
- Water-proof and robust
- Simple installation
- World-wide service network



2 Technical specifications



Cut out



Sliding roof


Description		BlueSky
General		
Part no.		3396715
Operation		Continuous electric
Operation voltage (DC) [V]		12
Power (at 20 A, 12 V) [W]		240
Control panel		Rocker switch
Installation method		Frame and rails screwed on deck / roof / surface
Average installation time [h]		4
Frame materials		AlMg Si 0.5
Surface treatment		Anodized
Panel		PMMA, grey, 2x 3 mm
Allowable weight		Not designed as walking surface Max. load in accordance with ISO 12216, category B, area III
Allowable temperature		-10 to +75
Possibility to use as escape hatch		No
Cut out dimensions		
L1	Length [mm]	770 +0 / +4
W1	Width [mm]	720 +0 / +4
	Longitudinal curvature [mm]	Uncurved
R1	Corner radius [mm]	65 ±2
	Cross curvature [mm]	Uncurved
Dimensions		
L2	Length [mm]	922
L3	Overall length [mm]	1490
L4	Rear rail length [mm]	630
W2	Width [mm]	811
H	Height [mm]	60
	Longitudinal curvature [mm]	Uncurved
R2	Front corner radius [mm]	100
R3	Rear corner radius [mm]	45
	Cross curvature [mm]	Uncurved
Panel displacement		
"tilt" (Z-direction) [mm]		36
"slide" (X-direction) [mm]		545
Weight		
	[kg]	14
Optics		
Colour panel		Dark grey tinted
Interior		Blank anodised
Panel fixation		Bolted on mechanism


3 Description of the product

The Webasto BlueSky can be fully closed or opened in tilted, partly slide open or fully slide open position. See Operating Instructions.



Pushing the open/close switch electrically operates the roof (see operating instructions).

Continuously pushing button  opens the roof to the desired position. The roof stops moving when it has reached the max. slide open position

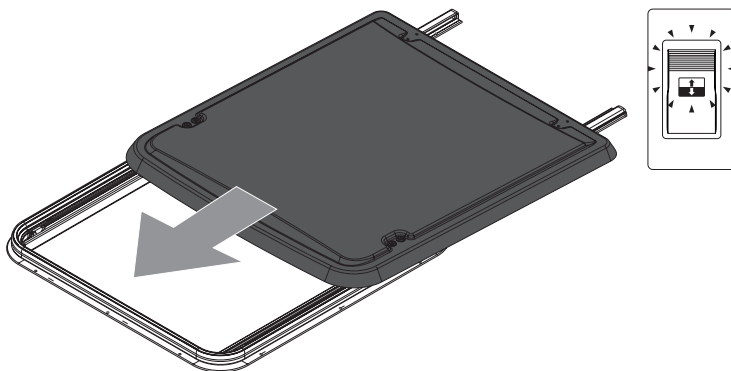
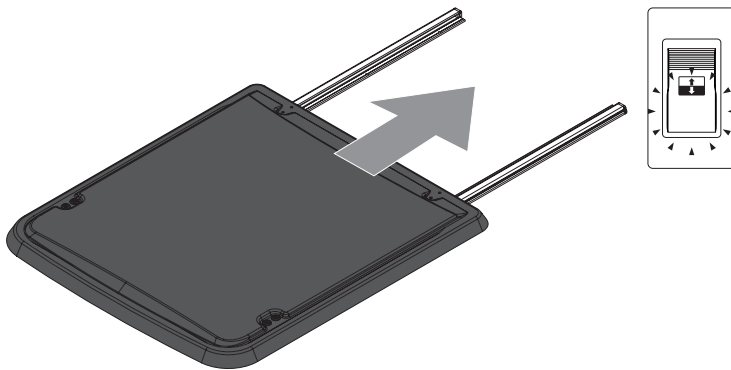
Continuously pushing button  closes the roof to the desired position.

The motor attached to the roof's frame opens and closes the roof via cables. The panel mechanisms slides inside the guides and the rails.

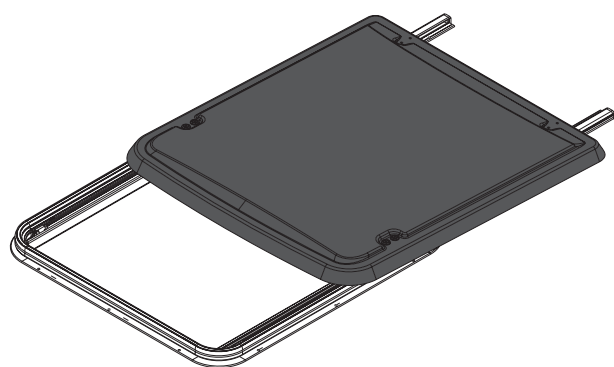
The electrical supply is via the wiring from the vessels power supply.

The system is designed to operate with 12 V DC.

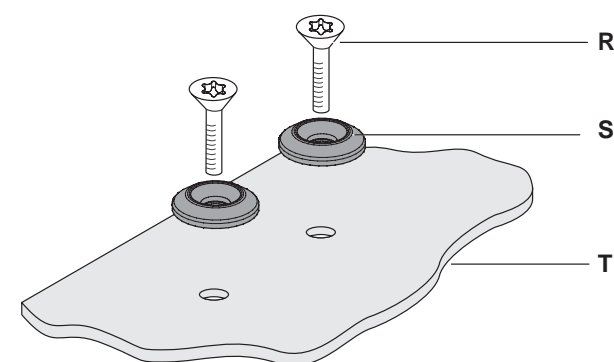
Control panel



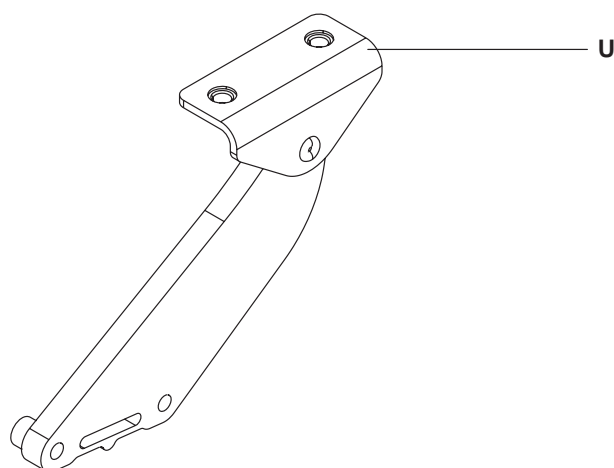
4 Installation



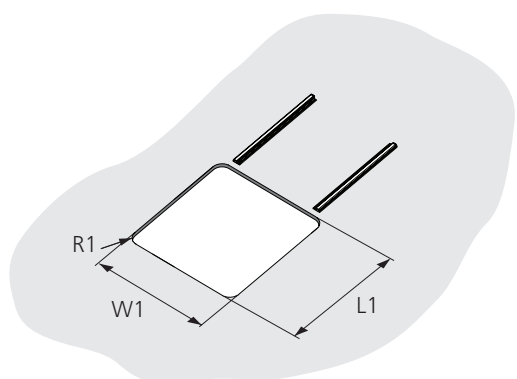
Sliding roof has to be installed on flat, uncurved surface.
 Deck / roof / surface must be sufficiently strong at installation point.
 If not, reinforcement must be made.



- Note the location of all parts:
 R: Bolt M5x16
 S: Nylon ring
 T: Panel assembly
 U: Connecting bracket

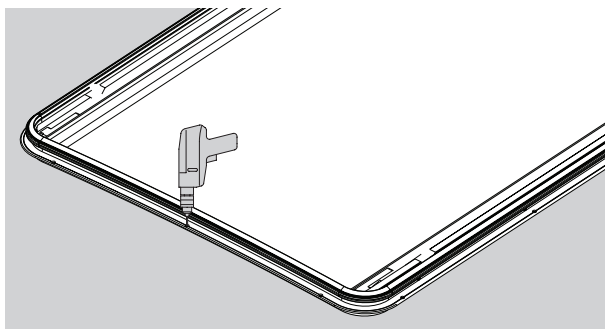


Cut out deck / roof / surface according drawing left.



- Place top frame unit in cut out and fixate

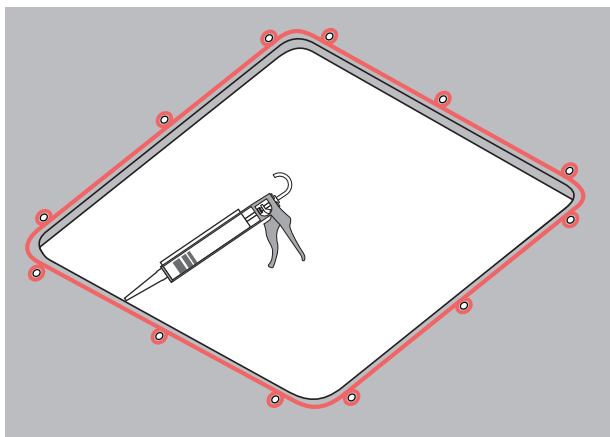




- Aluminium or steel deck / roof / surface:
Drill fixing holes \varnothing 3.2 mm.
- Other materials (e. g. polyester):
Connection must be secure and watertight.

Important:

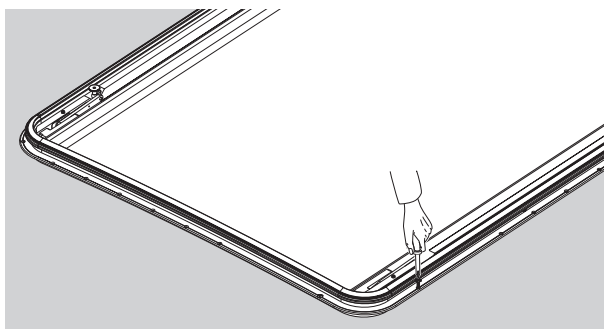
Do not damage seal when drilling holes.



- Remove top frame.

Aluminium or steel deck / roof / surface:

- Cut thread M4 in fixing holes \varnothing 3.2 mm.
- Apply bead of sealant along contour of roof cut out.
Also around fixing holes.



- Place top frame again.
- Aluminium or steel deck / roof / surface:
 - Place and tighten fixing screws to 4 Nm.

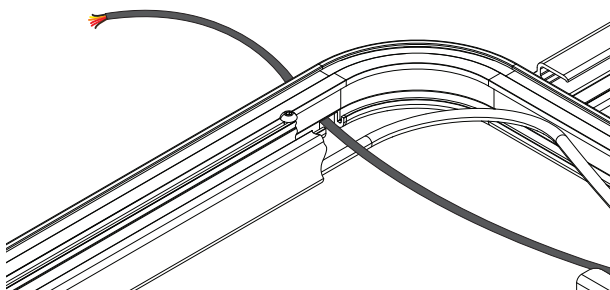
Important:

Do not damage seal when placing and tightening fixing screws.



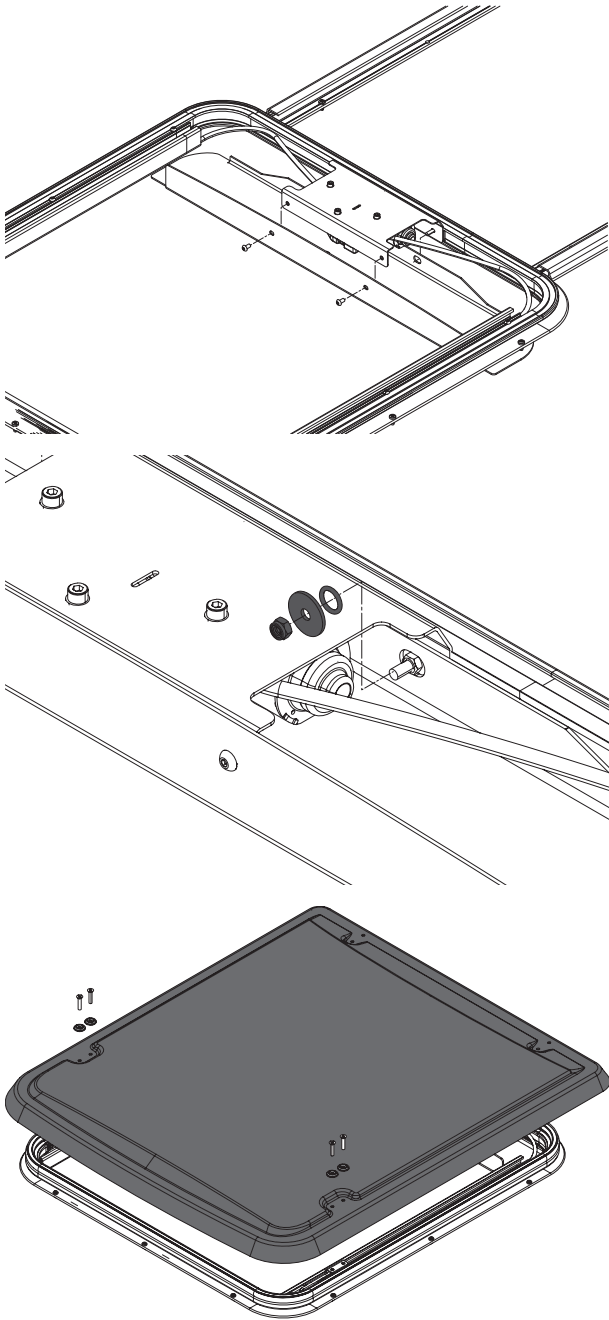
See chapter 7 Electrical diagram (page 18)

- Guide wiring harness to the side of the frame.
- Guide wiring harness trough the cutout.



Make electrical connections.

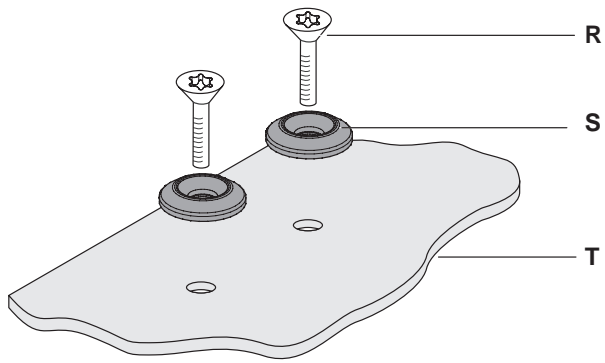




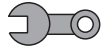
- Place motor cover on studs
- Tighten button head screws on the front side of the motor cover.

- Tighten motor cover at back side with O-ring, washer and self-locking nut.

- Place panel assembly on top of top frame
- Attach it to LH and RH lever assemblies with 2x2 bolts M5x16.
- Align panel assembly with top frame.
Max. deviation left-right and front/rear = 2 mm.



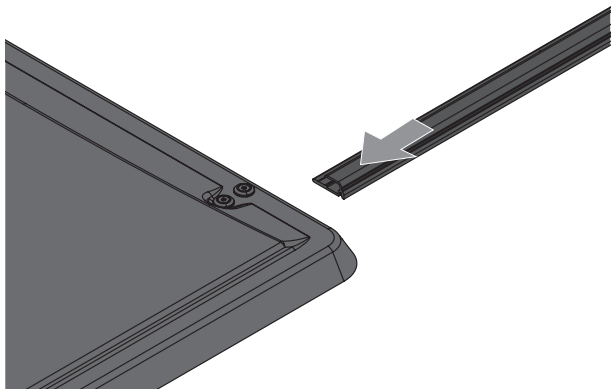
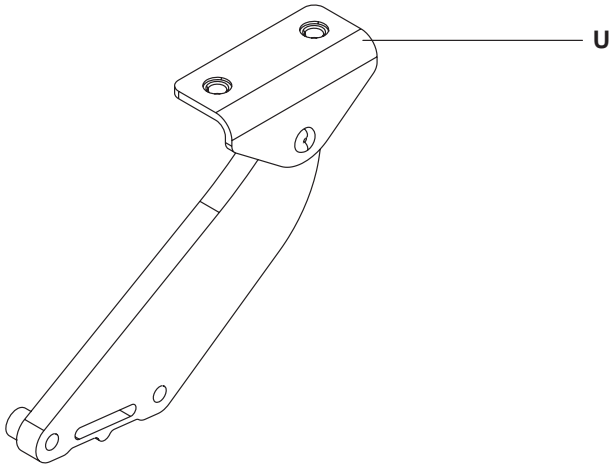
- Put 4 bolts (R) through nylon rings (S), panel (T), and screw into connecting brackets (U).



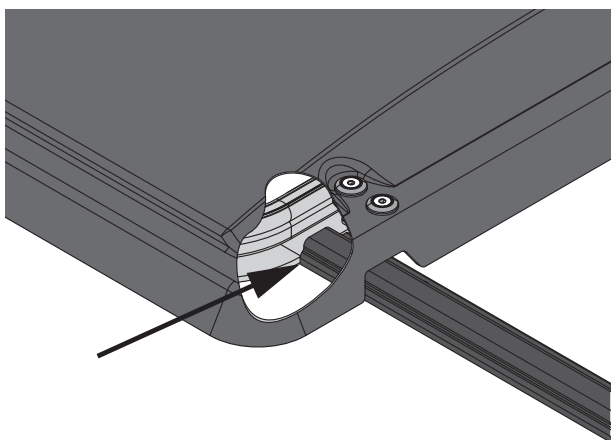
Note:
Apply Loctite 243 on threads.



- Tighten screws to 4 Nm.

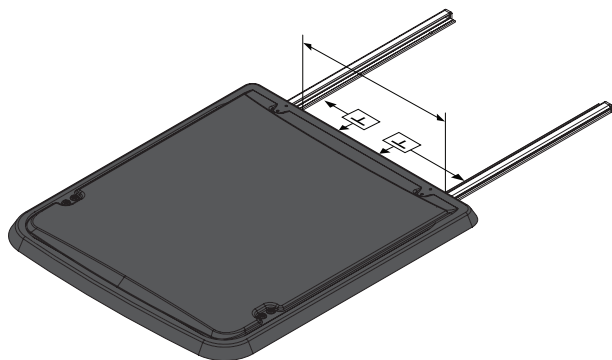


- Slide rails through sliding mechanisms.



- Place rear rails against top frame.

Align rear rails:



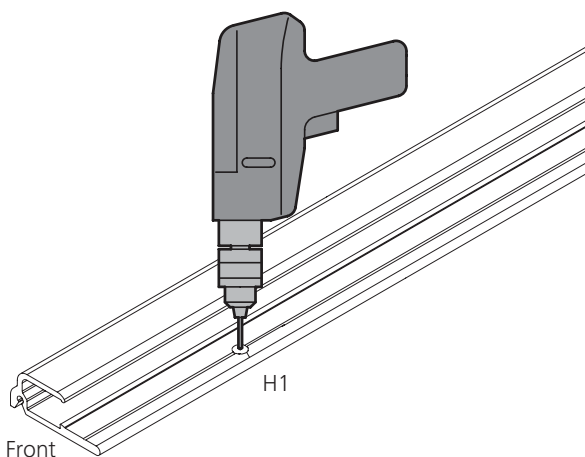
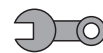
With closed roof:

Note:

Make sure that rear rails are parallel and perpendicular to rear beam of top frame.



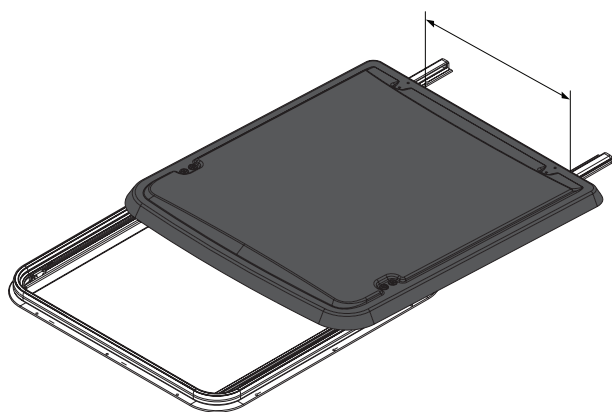
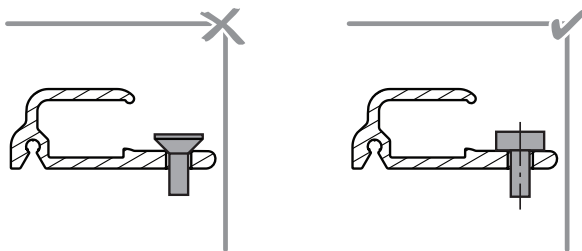
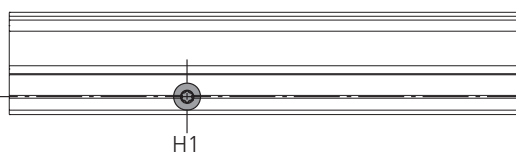
- Measure distance between rear rails near sliding bracket.



- Drill fixing holes H1 \varnothing 5 mm and cut thread M6 in deck / roof / surface (LH and RH).
- Place fixing screws in holes H1, just hand-tight. Use pan, dome or round head screws.

Alternative fixation with self tapping screws:

- Drill holes with correct diameter
- Place screws in holes H1

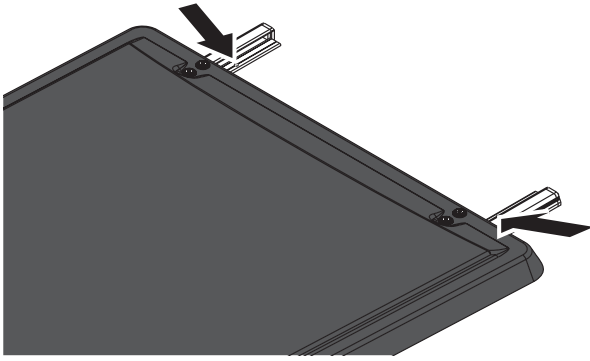


- Open sliding roof completely.

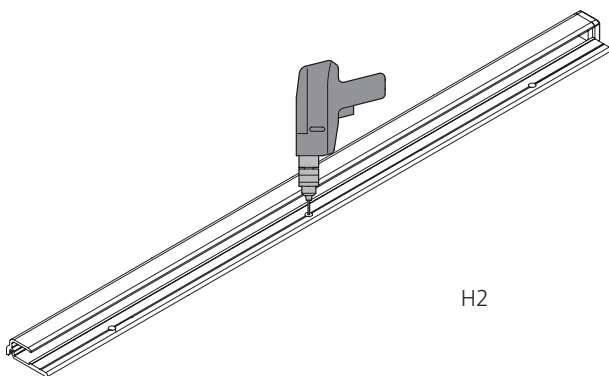
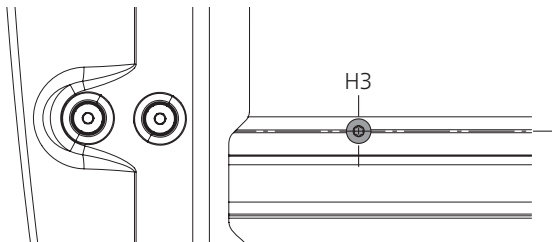
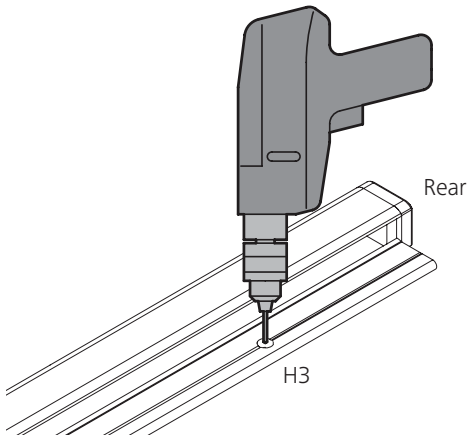
Note:

If necessary, close roof a bit, until last hole in each rail can be accessed.

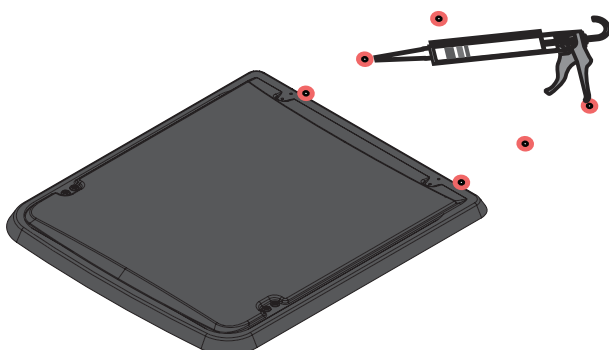
- Check if distance between rear rails is same as measured before.



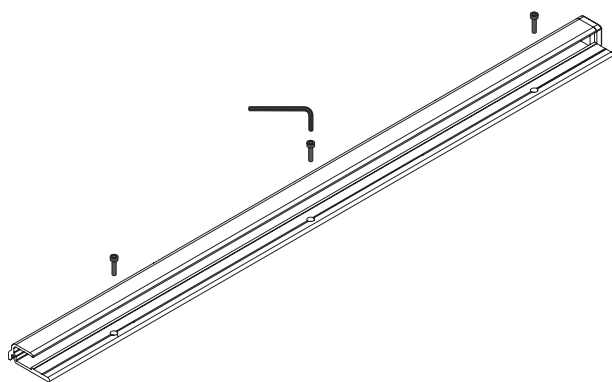
- Drill rear fixing holes H3 \varnothing 5 mm and cut thread M6 in deck / roof / surface.
- Place fixing screw in each hole, just hand-tight.
- Alternative fixation with self tapping screws:
 - drill holes with correct diameter
 - place screws in holes H3



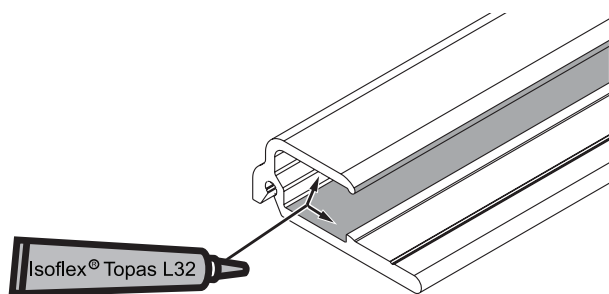
- Close sliding roof again, drill remaining fixing holes H2 \varnothing 5 mm and cut thread M6 in deck / roof / surface.
- Alternative fixation with self tapping screws: drill holes with correct diameter



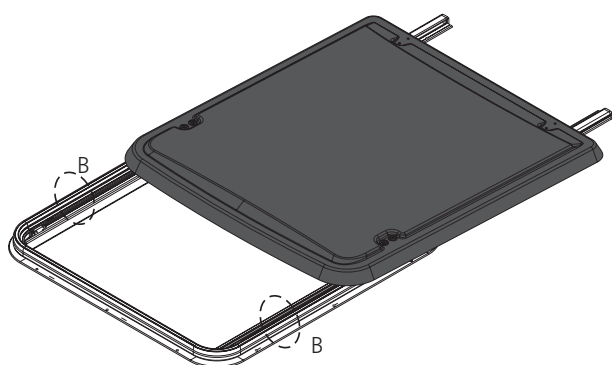
- Remove rear rails.
- Apply bead of sealant around all fixing holes.



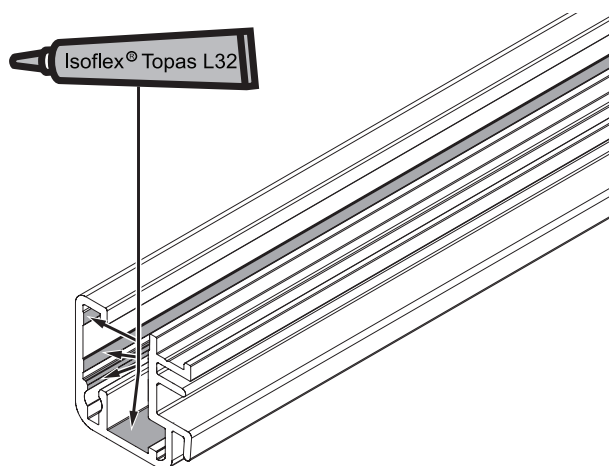
- Place rear rails and all fixing screws.
- Tighten fixing screws to 4 Nm.



- Apply thin layer of grease (Isoflex® Topas L32) to inside of rear rails to ensure smooth sliding.



Check if there is grease on inside of guides (B).
If not, apply a thin layer of grease (Isoflex® Topas L32) to inside of guides (B) to ensure smooth sliding.

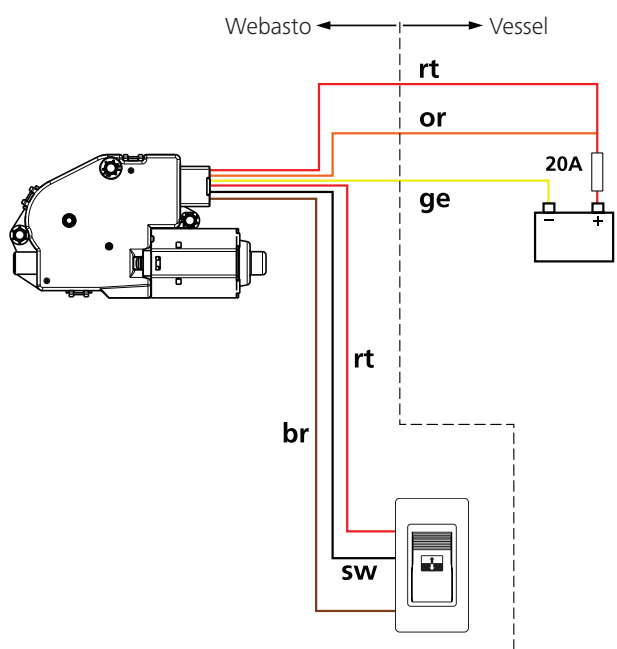


Warning:
Install and keep the emergency key in close proximity of the roof for manual operation.

- Finish the installation and check the function of the marine roof.



5 Electrical connections



Warning:

Make sure that you can see the roof while operating the switch!



Determine switch position and install it.

Connect battery 12 V DC.

Red: + 12 V DC, continuous, with fuse 20 A.

Orange: + 12 V DC, continuous, with fuse 20 A.

Yellow: – (minus)

br = brown

ge = yellow

or = orange

rt = red

sw = black

Attach connector wiring harness to motor.

See electrical diagram (chapter 7).

Note:

Ensure there is at least 20 A available.



Note:

In case there's a 24 V DC power supply, use a 24 V - 12 V DC convertor that can handle at least 20 A.



2 additional connections are necessary for switch illumination (see illustration):

- Orange: + 12 V DC

- Green: – (minus)

Other wires:

- Red: Motor close

- Black: Motor – (minus)

- Brown: Motor open

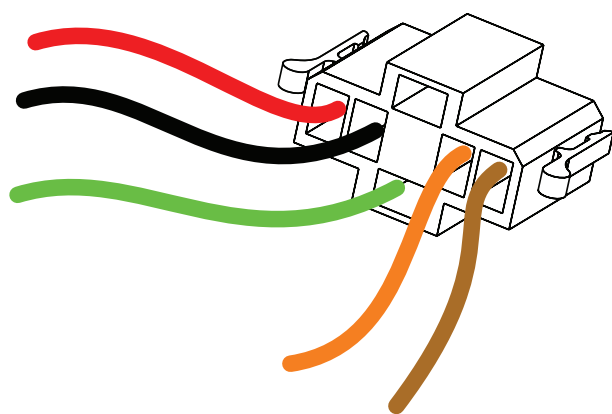
br = brown

gn = green

or = orange

rt = red

sw = black



Different switch:

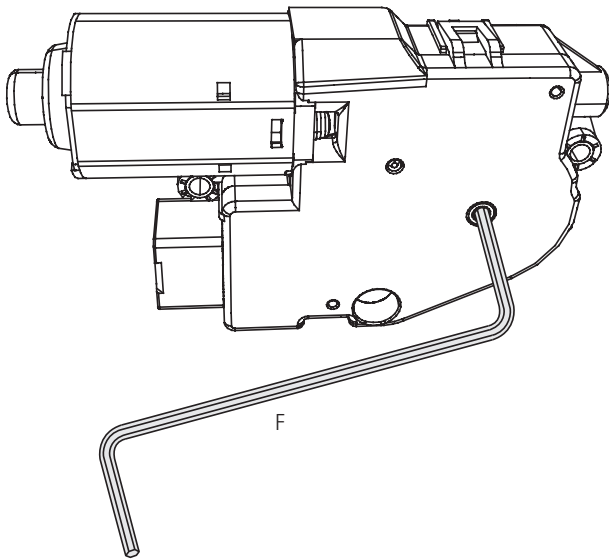
In case another switch is used to operate the roof, it must be with potential-free and normally-open contacts.

Connect the wiring to the switch as follows:

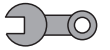
- Black and red => close roof
- Black and brown => open roof

6 Resetting

In any case of servicing, re-initialize the roof.



When necessary, the marine sliding roof can be operated manually.



The driving shaft of the motor can be turned with the emergency key (F) to open or close the roof.

Important:

Do not attempt to function the roof electrically during manual override operation.








If the roof is operated manually with the emergency key (F), the control system must be reset.

Reset procedure:

Note:

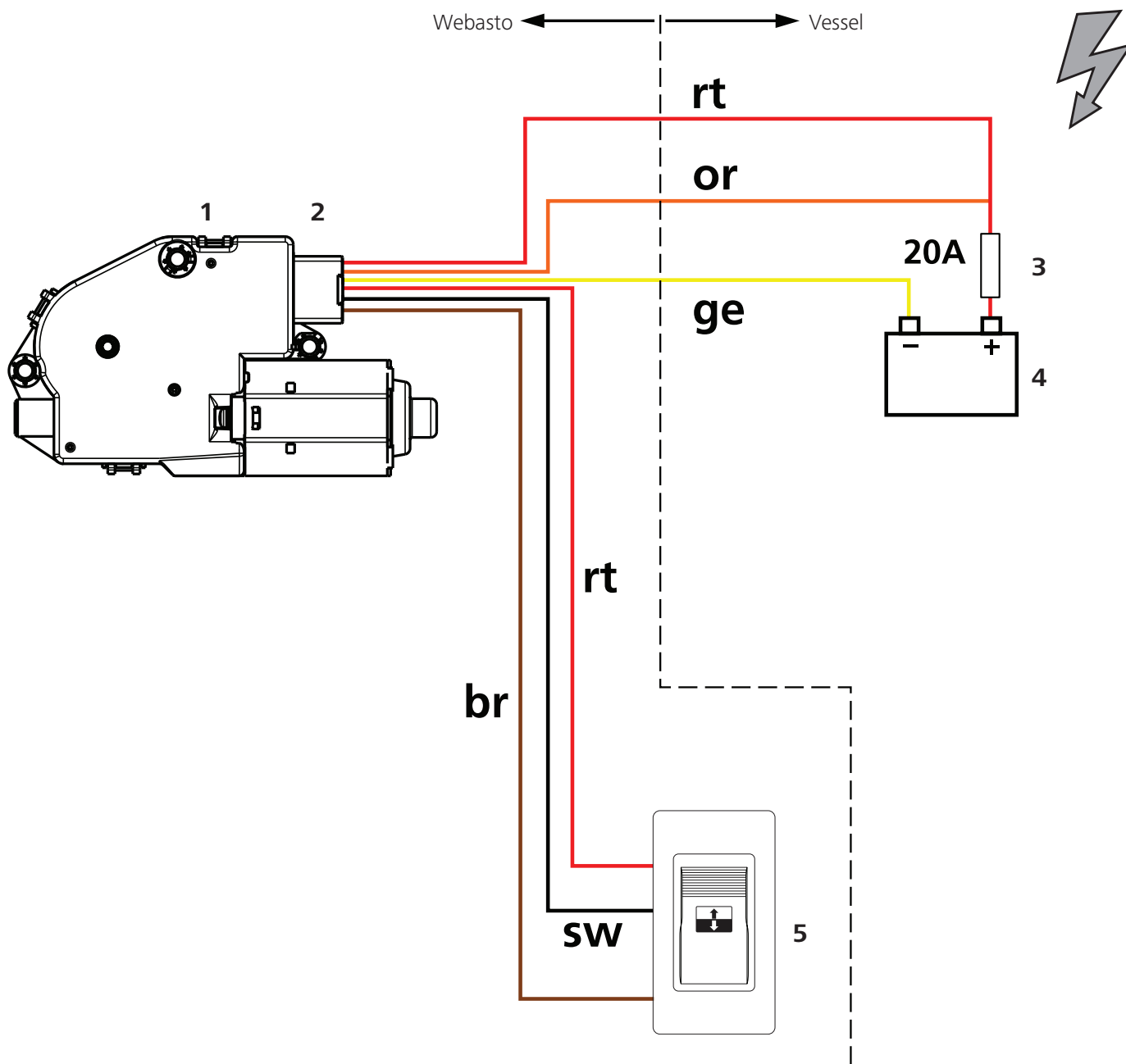
Before beginning the reset procedure, ensure there is a minimum of 20 A available.



- Press and hold the “close”  button to close the roof as far forward as possible.
- Release the “close”  button.
- Within 1 second press and hold the “close”  button.
- While continuing to hold the “close”  button; after 10 seconds the glass panel moves with small steps until it's completely closed and the motor produces a loud “click” sound.
- Now, release the “close”  button.

The system has been reset.

7 Electrical diagram



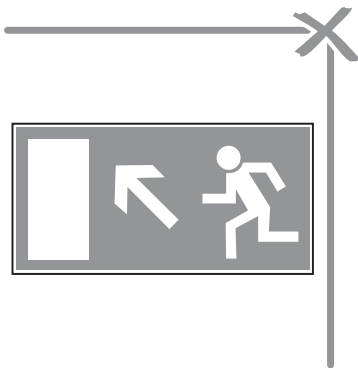
- 1 = motor with control unit marine roof
- 2 = motor connector
- 3 = fuse 20 A
- 4 = battery 12 V DC
- 5 = switch marine roof + switch connector

- br = brown
- ge = yellow
- or = orange
- rt = red
- sw = black

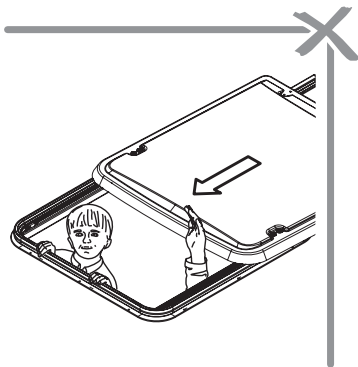
Red wire: + 12 V DC, continuous, with fuse 20 A
 Orange wire: + 12 V DC, continuous, with fuse 20 A
 Yellow wire: - (minus)

Cut and lengthen wires if necessary.
 All wiring must be able to handle 20 A.

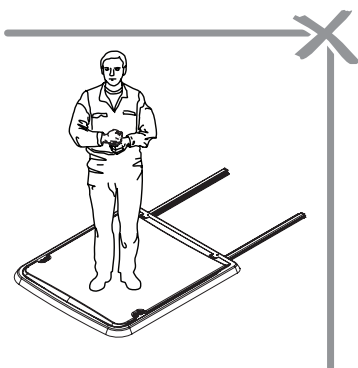
8 Safety



Do not use the roof as an escape hatch!
Ensure that another hatch is accessible for emergencies



When closing the roof, make sure to keep all body parts and/or obstructions away from the opening to prevent injury!



Do not stand or walk on the roof!



9 Support

For more details and updates, please check Webasto's technical websites:

USA: <http://www.techwebasto.com>

Others: <http://dealers.webasto.com>

10 Checklist

Check installation and functionality.

See also Operating Instructions.



Clean

All parts clean before operating roof.

No dirt, dust and small particles.

Examples:

No small particles in rails, guides or mechanism (from drilling holes for fixation top frame and rails): causes damage and corrosion of rails.

No dust in mechanism (e.g. from sanding wooden parts).

Grease

Isoflex® Topas L32 grease on inside of guides and rails.

Fuse

Correct fuse in wiring.

Alignment rails

Position rails

- in accordance with Installation Instructions
- exactly in line with marine roof and cut out
- parallel

Sealing

Glass panel assembly must compress seal at complete outline of roof.

Function

Roof must run smoothly.

Must open and close completely and correctly.

Open

Close

EU-Declaration of Conformity UE-Déclaration de Conformité

Manufacturer/
Fabricant
Webasto Thermo & Comfort Benelux B.V.
Constructieweg 47
8263 BC Kampen
Nederland/Pay Bas

For the use of the Webasto sunroof
Pour l'utilisation du toit ouvrant Webasto

BlueSky Marine Sliding Roof System

dedicated for the installation in Area 3 of a design category B recreational craft (motor boat),
we declare conformity with the directives
dédié à l'installation dans la zone 3 d'une embarcation de la catégorie B de
loisirs (bateau à moteur), nous déclarons la conformité avec les directives

94/25/EC Pleasure craft directive/ Directive sur les bateaux de plaisance
(As last amended by 2003/44/EC / Modifié en dernier lieu par 2003/44/EC)

2004/108/ EC Electromagnetic Compatibility Directive

Follow the installation and operating instructions.
Suivez les instructions d'installation et d'exploitation.

Place and Date of issue/
Place et date de emission
Kampen, 02-12-2015

D. van Dort
Managing Director
Webasto Thermo & Comfort Benelux B.V.
R. Koning
R&D manager
Webasto Thermo & Comfort Benelux B.V.

This declaration certifies conformity with the Directives listed above.
Cette déclaration certifie la conformité des directives citées ci-dessus.

Following standards are fulfilled as proof of conformity with the provisions of the Directives:
Les normes suivantes sont réunies comme preuve de conformité avec les dispositions des
directives:

EN 55016-2-1 Conducted emission (LISN)
EN 55016-2-3 Radiated emission of Magnetic Fields
EN-IEC 61000-4-2 Electro Static Discharges
EN-IEC 61000-4-3 Radiated Immunity
EN-IEC 61000-4-4 Electrical Fast Transients
EN-IEC 61000-4-6 Conducted Immunity
EN-IEC 61000-4-11 Power supply failure

ISO 9094-2 Fire protection
ISO 10133 Small craft – Electrical systems – Extra-low-voltage d.c. installations
ISO 12216 Windows, portlights, hatches, deadlights and doors –
Strength and watertightness requirements

Compliance with the essential requirements of the European Recreational Craft Directive 94/25/EC as
amended by 2003/44/EC of June 16th, 2003 and with the relevant parts of ISO standards and normative
documents as listed in Annex I has been established by:

European Certification Bureau Nederland BV (NB 0614)
Julianaweg 224A
1131 NW Volendam
THE NETHERLANDS

Certificate number: -15-11-2015-

Compliance with the essential requirements of the ElectroMagnetic Compatibility Directive 2004/108/EC
with scope of application marine market (pleasure craft) has been established by accredited laboratory:

DARE !! Measurements
Vijzelmolenlaan 7
3447 GX Woerden
THE NETHERLANDS
Report number: 15C00855RPT01

Webasto Product Benelux

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8263 BC Kampen
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VAT-nr. NL005399257B01
Rek. nr. 65.66.84.836
IBAN NL94INGB0656684636
BIC INBNL2A
Rek. nr. 310-0151341-10
IBAN BE1 3100 1513 4110
BIC BBRUBEBB
E-Mail info.nl@webasto.com

In multilingual versions the English language is binding.

The telephone number of each country can be found in the Webasto service center leaflet or the website of the respective Webasto representative of your country.

Bei mehrsprachiger Ausführung ist Englisch verbindlich.

Die Telefonnummer des jeweiligen Landes entnehmen Sie bitte dem Webasto Servicestellen-Faltblatt oder der Webseite Ihrer jeweiligen Webasto Landesvertretung.

En cas de version multilingue, c'est la langue anglais qui fait foi.

Pour trouver le numéro de téléphone du pays concerné, veuillez consulter le dépliant des points-service Webasto ou la page web de la représentation Webasto de votre pays.

Bij een meertalige versie is de Engelse versie bindend.

Het telefoonnummer van het betreffende land kunt u vinden op het Webasto servicecenter-overzicht of de website van de Webastovestiging in uw land.

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