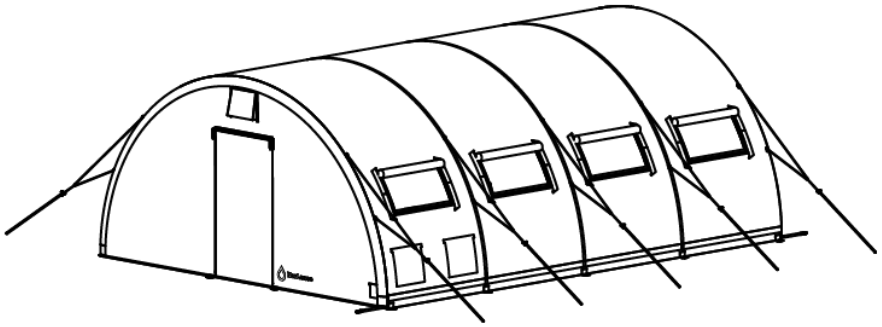
NorLense
SHELTER SOLUTIONS



HIGH PRESSURE INFLATABLE TENTS
USER MANUAL
SWIFT 3M
4M
5M
6M
7M
8M

User Manual NorLense Swift High-Pressure Inflatable Tents
Updated: 05.12.2024 Version: 2.1
English

Picture on page 1. Example SWIFT 6x8m

Index

Use of the manual 4
Introduction 4
Quality Certification 4
Environment 4
General part description 5
Tent features 6
Precautions 9
Use 9
Cold climate use 9
Warm climate use 9
Assembly 10
Required tools 10
Preparation 10
Unpacking 10
Securing the tent 11
Inflating the tent 11
Disassembly 12
Deflating the tent 12
Connectors & Accessories 15
Light & power distribution 15
Inner liner 16
Partition wall 16
Gable-to-Gable connector 17
Door-to-Door connector 19
Sun Screen 22
Maintenance & Cleaning 24
Lifespan 24
Storage 24
Cleaning the tent 24
Cleaning the inner tent 24
Drying 25
Field repairs 25
Field Repair Kit 25
Repair of PVC-Fabric 26
Repair of the inner liner 26
Change of windows 26
Substantial damage to PVC-Fabric 26
Replacing air beams 27
Spare parts 28
Compressor 5/22S w/filling hose 28

Use of the manual

- Read the user manual before using the product.
- Follow the instructions in this manual.
- Keep this manual together with the product.

NorLense AS is not responsible for any damage to equipment or personnel, and/or malfunctions, which may be caused by improper use or ignoring this user manual.

On the last page QR code can be found with user manuals in EN/SV/FR and video user manual.

Introduction

The purpose of this manual is to provide the user with basic knowledge about handling Swift High-Pressure Inflatable Tents from NorLense. This handbook is for personnel operating the tents and includes technical data, description of the construction, assembly/disassembly instructions, safety and maintenance instructions. This manual covers the principles of the 3M, 4M, 5M & 6M Series.
Please read the entire user manual before using the product and then save it for future reference.
If technical problem or other appears, please contact NorLense customer service.

The illustrations and pictures in this manual may differ from your product.

Quality Certification

NorLense is certified according to ISO 9001:2015, ISO 14001:2015 standards. Adaptions to meet AQAP and STANAG standards have been done in collaboration with Norwegian Defence Materiel Agency.

Environment

In accordance with ISO 14001 standard, aspects that may have a substantial environmental impact are monitored and controlled. Wrecked or defective tents must be recycled. All parts which are possible shall be recycled. The rest are classified as substantial environmental aspects under the ISO requirements, and they are treated as a special category waste to the recycling station. Wrecked/defect tents can be returned to NorLense for reuse or destruction. If not, it is recommended to hand it to an approved recycling station as special category waste, so it can be correctly treated according to existing rules and the environment.

Contact NorLense in need of further information.

Never burn PVC-fabric as it emits toxic and harmful gases.

General part description

Durable outer layer

Our standard tents come with a durable, flame retardant, high tensile/tear strength and light impermeable 700g/m^2 PVC fabric. Sandstone and military green have a blackout function as standard.

Air system

The high-pressure air system requires low maintenance. The structure is not affected by outside temperature, any increase/decrease in internal pressure is within its margin of safety. The tent is designed for up to six months of continuous field use and there is no need for any additional refilling of air. Air pressure should be checked regularly to ensure there are no leaks.

Connectors & accessories

Connectors allow for creating camps Swift tents. Accessories such as light and power distribution system, inner liner, sun screen, HVAC etc. enhance the comfort working environment.

PVC transport bags & Storage crates

Most tent are delivered with a PVC-bag for easy packing and storage. Stackable wooden/ plastic crates are also available.

Field repair kit

Most tents are delivered with a field repair kit for simple repairs. More information in the “Maintenance & Cleaning” section on page 24.

Tent features

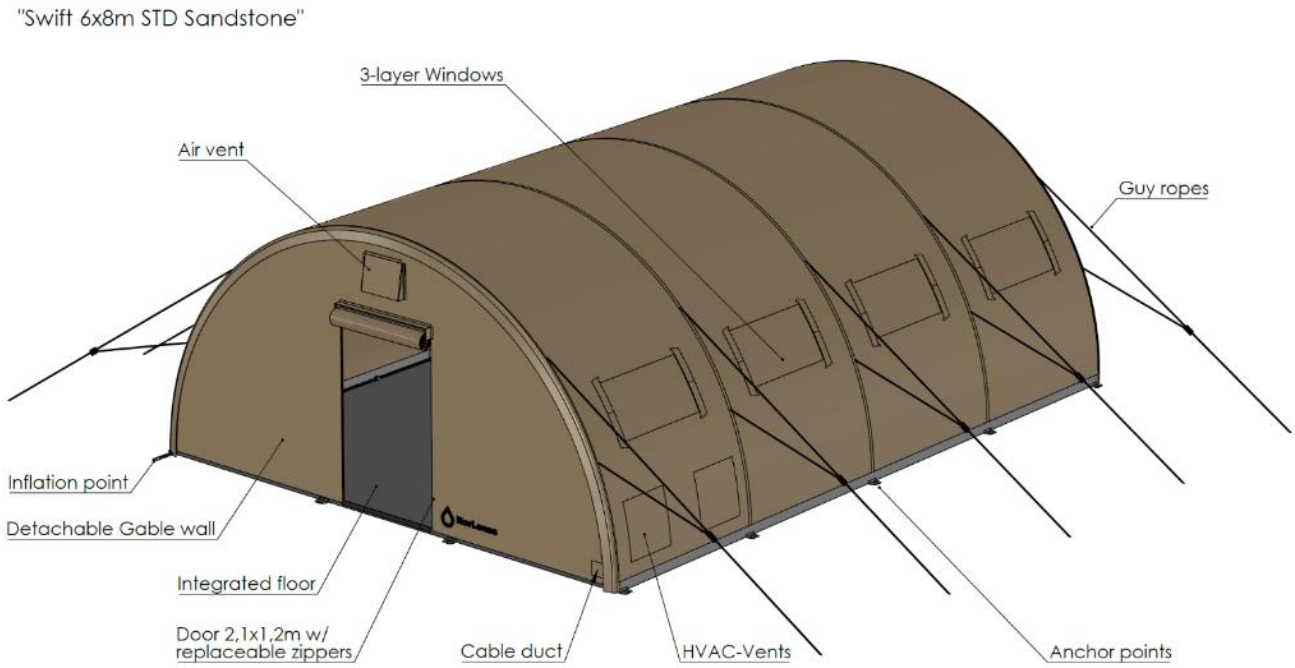


Figure 1. General description of tent's features.

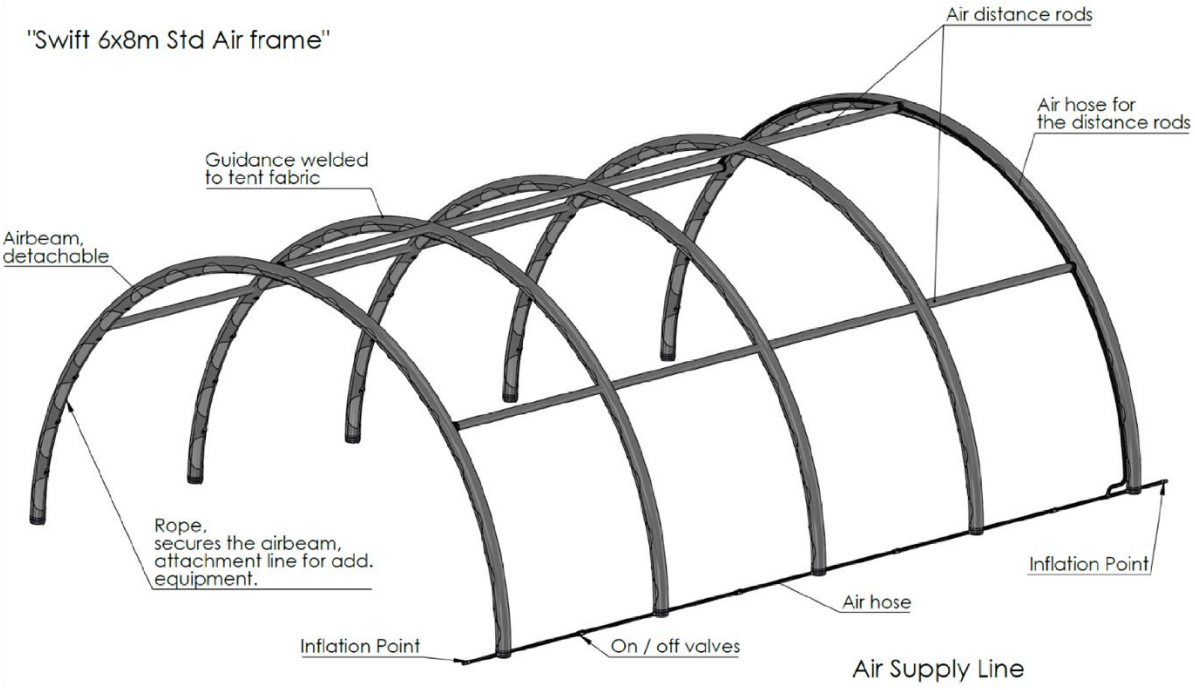


Figure 2. Airframe parts description.

Detachable gable wall

Fully removable end wall allows connection to another tent of the same width using a Gable-to-Gable connector (Figure 3).

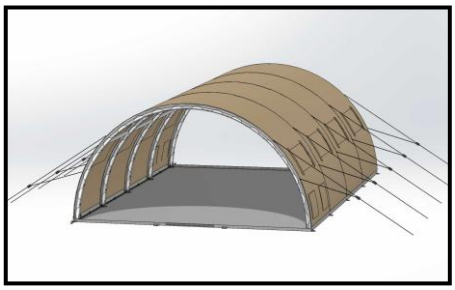


Figure 3

Integrated floor

Durable PVC floor with anti-slip properties.
Easy to clean (Figure 4).

Figure 4

Door 2,1x1,2m w/replaceable zippers

Zippers can be easily changed if damaged. Attachment points for additional connections to other tents (Figure 5).

Figure 5

Cable duct

Small hatch for cables. 100mm adjustable opening for minimal heat loss or light exposure (Figure 6).

Figure 6

HVAC-vents

350/450 mm hatch for HVAC-tubes. Adjustable opening for minimal heat loss or light exposure (Figure 7).

Figure 7

Guy ropes

Nylon ropes for secure anchoring to ground.
Double anchoring to the tent wall. Adjustable length (Figure 8).

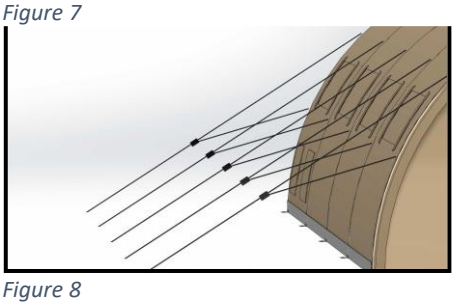


Figure 8

3-layer windows

Windows with an outer fabric layer, removable transparent layer/window and a fixed mosquito mesh. Roll the outer cover inwards and attach on top using Velcro on the outside to keep in open position (Figure 9).

Figure 9

Anchor points

Reinforced anchor points for tent pegs / supports (Figure 10).

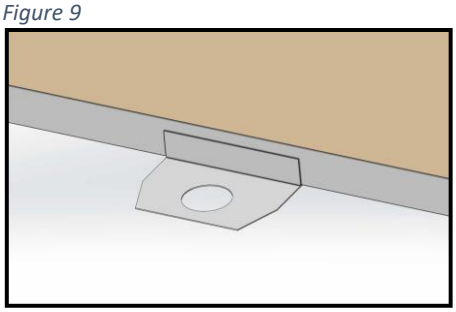


Figure 10

Air hose w. ON/OFF Valves

Air distribution hose. ON/OFF ball valve between each high-pressure air beam. Prevents whole air system failure in case of leakage (Figure 11).

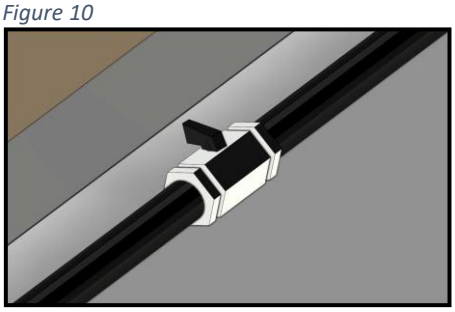


Figure 11

Air beams

High pressure air beam (6-8 bar). Replaceable with a minimal set of tools (Figure 12).

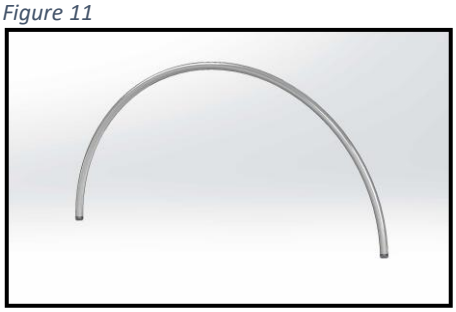


Figure 12

Air vent

Ventilation opening with mosquito net. Adjustable opening (Figure 13).

Figure 13

Inflation point

2 off connections on gable wall sides connecting to compressor/air source with a non-return valve, quick coupling. Two-way male adapter used with compressor and evacuating air out of tent (Figure 14).

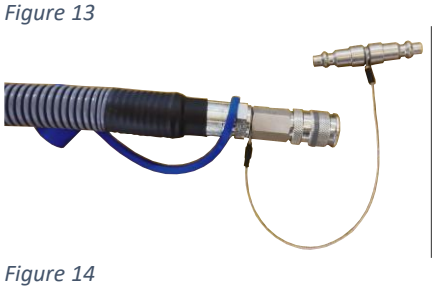


Figure 14

Precautions

- The tent can be used from -45°C to +70°C. Assembly or disassembly below -30°C conditions require special considerations. See packing instructions for more details (Cold climate use on page 9).
- The tent has been proven reliable in wind speeds of at least 33-40 m/s (depending on the size).

NOTE: wind can be highly unpredictable, and general caution is advised. The Swift tents are self-supporting, though use of guy ropes and proper tent pegs is always recommended.

- Do not store in wet/moist or dirty conditions.
- Avoid open flame or showers of sparks around and inside the tent.
- Pay extra attention whenever using fuel-fired lights or heating systems inside the tent. Electric systems for lighting and heating are recommended.
- Avoid keeping inflammable fluids inside the tent.
- Prevent sharp objects from falling onto the ground sheet/floor or touching against the roof and air system.

Use

Depending on size, most Swift tents can easily be erected by 2 people. Our systems do not have any loose parts required for setup, and any maintenance can be done with minimal number of tools. Swift tents are designed for all year use in most environments. HVAC openings on each side of the roof section allow for providing warm or cold air inside.

Cold climate use

Used with the inner liner, a ground sheet and an insulated floor, the tent provides excellent insulation along with a heat source. The tent is designed for a snow load of 20-40 kg/m² (depending on the size). It is recommended to remove accumulated snow regularly.

The colder it gets, the stiffer the PVC fabric is – more difficult to both erect and dismantle the tent. Especially the disassembly and packing down can be challenging during low temperatures (below -30˚C). Damage to the fabric may occur by simply folding it in sharp edges. The solution to this is to start the heater, connect it to the tent and let it run during the process. This helps keep the fabric soft and ensure that the tent fits into the storage unit.

Warm climate use

The Swift tents have ventilation openings and a door on each gable, which can be opened to ensure good airflow. When used together with the Sun Screen, it helps maintain cool conditions inside.

Assembly

Required tools

A compressor or other air source capable of 6-8 bar is required for setup. A hammer for the tent pegs is supplied with the tent. A small ladder can be helpful, but no other tools are required.

Preparation

The tent can be placed on any flat surface. For hard surfaces such as asphalt, concrete or ice, proper pegging of the tent can be difficult. Always use anchorage suited to the specific area. All surfaces should be clear of sharp objects, such as rocks, branches or other debris. We recommend using a Ground Sheet (optional) with tents, to protect the tent floor. A ladder is recommended for installation of gables, lights etc.

Unpacking

The tent is typically delivered with a PVC-transport bag (Figure 15). This bag has handles for carrying, though we recommend rolling the tent package into position. Never drag the transport bag or the tent across rough surfaces like sand and gravel as it can easily damage the fabric.
Place the rolled tent in desired space (Figure 16). Unroll the tent from the edge of a suitable area (Figure 17). Make sure there is sufficient space for anchorage.

Figure 15. Tent in PVC-transport bag

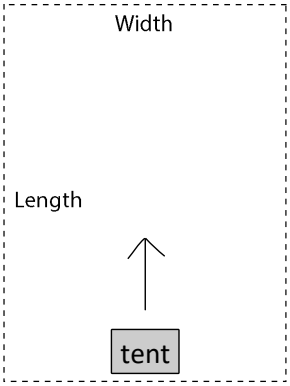


Figure 16. Orientation of rolled tent in space.

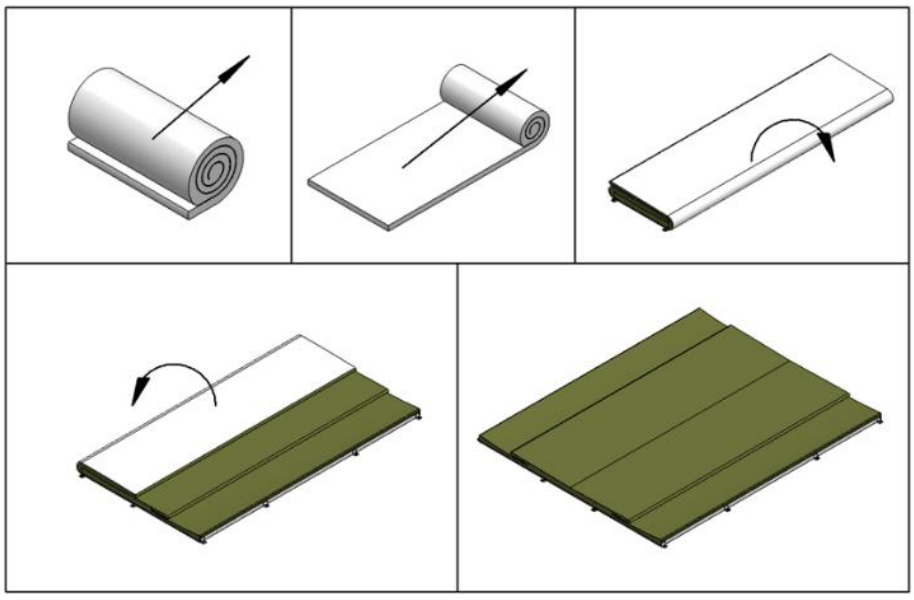


Figure 17. Unrolling and unfolding scheme.

Securing the tent

Before inflating, stretch out the tent and secure it to the ground using the tent pegs. This is especially important for setup during bad weather. Note also that tent pegs should generally be placed vertically into the ground, not at an angle.
Guy ropes must be placed at approx. 45° angle from the ground (Figure 18).

Figure 18. Fastening point for tent peg and explanation of vertical placement of the peg. When placed vertically, the tent peg provides more force (a greater force field) than when placed at the angle.

Inflating the tent

To erect the tent, it is necessary to inflate the air beams and the distance rods to a pressure of 6-8 bar (87 to 116 psi). A 230 V Electric Compressor type 5/22S KGK can be bought together with the tent. Instructions for the compressor on page 28. Make sure the tent doors are unzipped to allow air into the tent while inflating.

NOTE: The tent does not have an automatic relief valve. If another air source is used to fill without manometer, check tent pressure, use the included manometer to measure pressure while inflating in the opposite filling point.

Depending on air source and size of the tent, the inflation time is typically between 5-20 min.
Tent is self-supporting at approximately 2-3 bar of pressure, so installation of any additional equipment can be done at this point.

1. Connect the compressor/air source to either of the two filling hoses to inflate the tent (Figure 14). If an additional air source is available, both inlets can be used simultaneously to reduce setup time.

   Connecting to the compressor provided by NorLense (Figure 19):
   In this operation, the two-way male adapter (C) is not used.
   1. Open the dust cap (A).
   2. Insert male connector of the compressor hose (D) into quick coupling (B). Push until it clicks, and the connector (D) stays in place.

   Usually, air source hose ends with female coupling (E). To let the air flow, there is a two-way male adapter (C) attached to the tent filling hose.
   Connecting other air sources (Figure 20):
   1. Open the dust cap (A).
   2. Insert two-way male adapter (C) into tent's filling hose (B). Push until it clicks, and adapter (C) stays in place.
   3. Insert the other end of the two-way male adapter (C) into the air source's hose (E). Push until it clicks, and the adapter (C) stays in place.

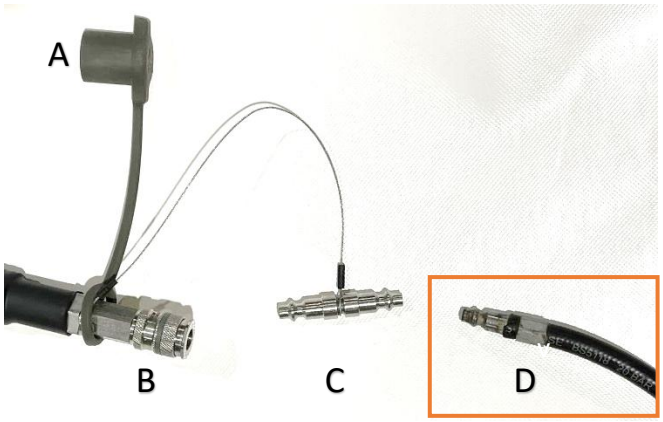


Figure 19. Filling hose and NorLense's compressor hose; A. Dust cap; B. Filling hose of the tent with quick coupling; C. two-way male adapter; D. compressor hose male connector.

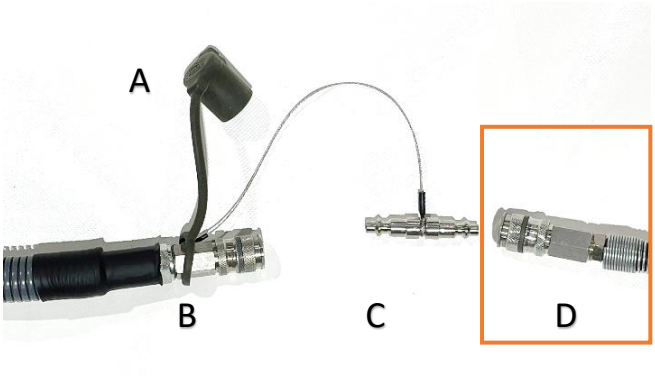


Figure 20. Filling hose with air source (example); A. Dust cap; B. Filling hose of the tent with quick coupling; C. two-way male adapter; E. compressor hose with female quick coupling.

2. Let the compressor run to desired pressure. As the air-beams start to fill with air, look for any hard bends in the beams. Once there is some pressure in the system (2-3 bar) the tent can be lifted from the inside into its final shape.

3. Attach and adjust the guy ropes as the tent inflates, very important with heavy wind.

4. Once the tent reaches max pressure, disconnect the compressor.

   Disconnecting the compressor provided by NorLense (Figure 19):

   1. Pull on the quick coupling's outer ring on tent's filling hose (B) until male connector (D) disconnects.
   2. Place the dust cap (A) on the tent's filling hose (B).

   Disconnecting an air source (Figure 20):

   1. Pull on the outer ring of the quick coupling on the tent's filling hose (B) until the two-way male adapter (C) disconnects.
   2. Pull on the outer ring of the quick coupling on the tent's compressor hose (E) until the two-way male adapter (B) disconnects.
   3. Place the dust cap (A) on the tent's filling hose (B).

5. Readjust tent pegs and tighten guy ropes if needed.

6. Close every valve between the air-beams by turning the handle 90° (Figure 11). In case of a leak or rupture, only the affected air-beam will deflate.

7. Open windows and doors by rolling the fabric inwards. This prevents water collection in the folds. Windows and ventilation hatches can be rolled halfway, or fully open.

Disassembly

Deflating the tent

Before disassembly of the tent, remove all additional equipment such as connectors, lights, inner liners etc. Clean, dismantle and pack the inner lining in the accompanying bag (Cleaning the inner tent, page 24). Be sure that it is completely dry before packing. In cold temperatures, heater equipment with flexible hoses can remain attached to the tent to keep the fabric soft.

1. Clean and dry the tent before packing. The tent must be washed and dried if stored for longer than two weeks. For instructions see “Cleaning the tent” on page 24. If the packed PVC is dirty, it may result in premature damage.

2. Close all ventilation openings and windows. Leave the door zippers open.

3. Open all the ball-valves between each air beam along the floor located on one side of the tent (Figure 11).
4. Release the air from the air system by connecting the two-way male connector to the quick coupling. The male air connector is attached to the air hose with a wire. Both filling hoses can be opened (Figure 19):
    1. Open the dust cap (A).
    2. Insert the two-way male adapter (C) to tent’s filling hose (B). Push until click and adapter (C) stays in place.

	*Always use ear protection when evacuating high pressure air.*
	*Never keep your hands or skin in front of the airstream.*

5. Most of the air evacuates on its own, due to difference in pressure. The tent settles to ground on its own. Once the pressure equalizes with the atmosphere, we recommend using an ejector (Figure 21) with the compressor to evacuate the remaining air in the system. If an ejector is not available, most of the remaining air is removed when the tent is packed.

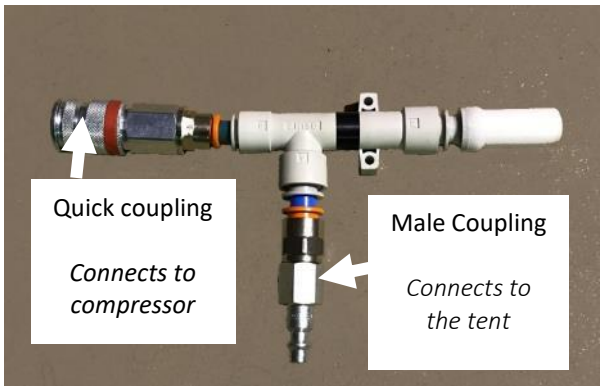


Figure 21. Ejector connections.

6. While the tent is deflating (+5 minutes), collect and clean the tent pegs. Make sure the quantity matches the content list of the tent peg bag.
7. If you use the ejector to deflate the tent, simply uncouple it. If you do not use the ejector, insert a two-way male adapter into the filling hoses to allow residual air to escape during rolling and packing.

8. Once the air has been removed, straighten out the tent and flatten as much as possible (Figure 22).

Figure 22

9. Fold one side of the tent lengthwise twice so that the outer edge meets the centre (Figure 23). Repeat on the other side (Figure 24).

NOTE: If a transport case is used for packing, make sure the width of the tent fits inside the crate.

Figure 23

Figure 24

10. We recommend using this opportunity to clean/wipe of the underside of the tent floor. Fold the tent once more at the centre (Figure 25).

Figure 25

11. Place the PVC-transport bag / soft bag under the tent at the end. Make sure the 2-way adapter is connected to the air filling hose.

12. Slowly roll the tent to allow any air to evacuate. Try to roll evenly while putting pressure on the roll to keep the roll to minimal dimension (Figure 26).

Figure 26

13. Place additional equipment such as Field Repair Kits, tent pegs, manometer etc. with the tent and close the transport bag using the straps. Secure the short side first (Figure 27).

Figure 27

Connectors & Accessories

Light & power distribution

Illustrated below (Figure 29) is a typical diagram of lights and cable distribution for a tent (length 8 m).
Our standard Cable Distribution Set consist of 2 cables with a power outlet every 2 m (for every air bream).
The 5-way cables are interconnected by the Extension Cable suspended along the end wall air-beam.
The illustrated setup also features:

- LED Lights for every beam (excl. outer ones), connected in series.
- Switch with ON/OFF/DIM function depending on light source.
- Lights and Cables connected to a power supply unit through the tent cable duct (Figure 28).

This system also works with the inner tent, which can be set up after installing the power and distribution set. There are zippered openings for threading lamps through.

Figure 28. Cable duct on the gable wall.

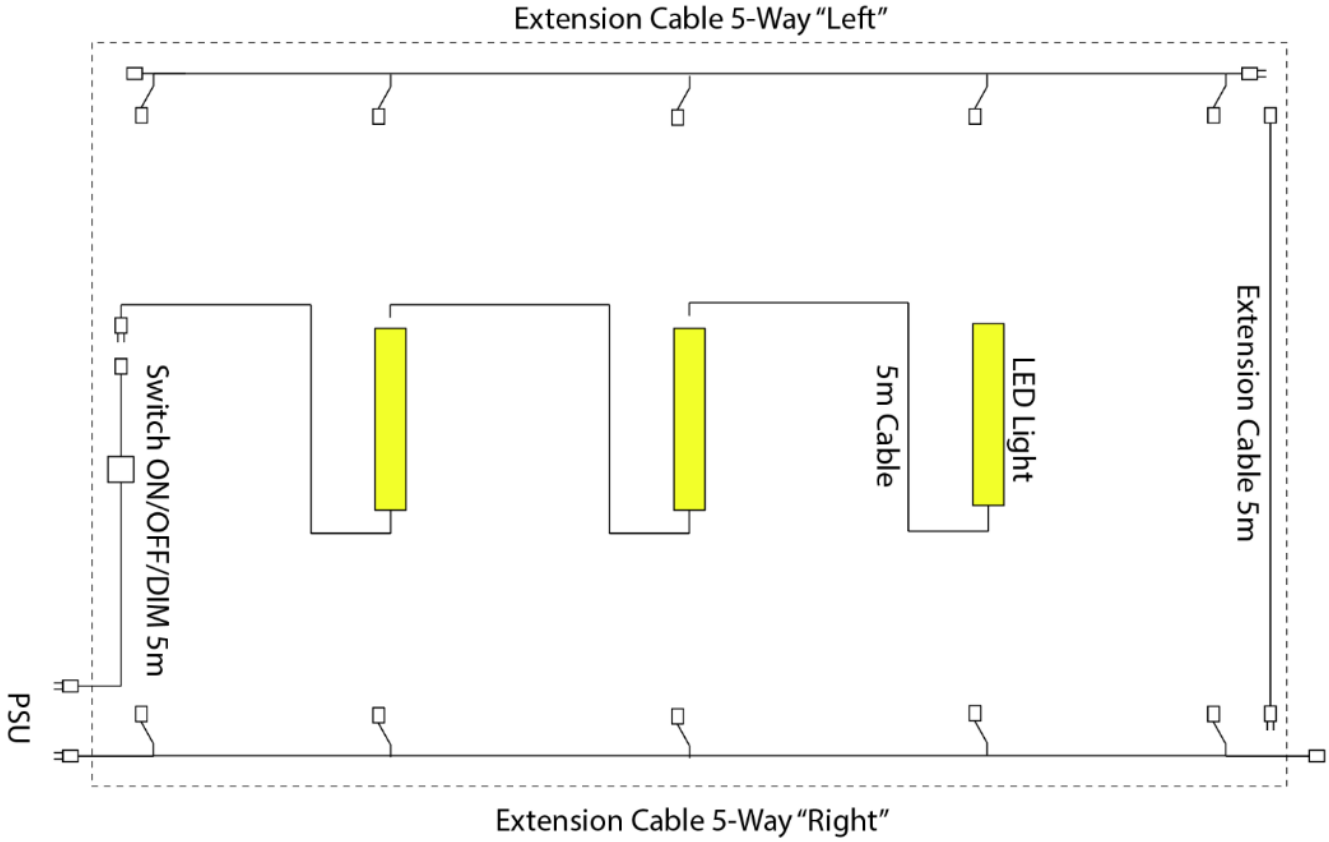


Figure 29. Wiring layout for 8 m long Swift Tent. Power Supply Unit (PSU).

Inner liner

The inner liner is made from a flexible, breathable, and fire-retardant material. The inner liner matches the features of the main Swift tent, i.e. doors, windows, ventilation and HVAC ducts.
Like the tents, the inner liners also have removable gables for connection to other tents/inner liners of the same width.

Inner liner assembly

The Inner liner consist of 3 parts, the main roof/wall and two removable gable walls in addition the bag. The gable walls are connected with zippers.

NOTE: Lights and cables should be installed before the Inner liner.

1. Unpack the Inner liner inside the tent.
2. On the main roof/wall, find one of the ends. Locate 3-4 of the middle plastic hooks and attach these to the rope along the air-beams (highest point). Repeat on the other air-beams
3. Attach the rest of the hooks, working your way down from the middle/ highest point (Figure 30).
4. Attach the last metal hook to the metal eyelet close to the floor.
5. Install the gables on the sidewalls using the zippers.

Figure 30. Inner Liner hooks' attachment to the rope along the air beam.

Figure 31. Installed inner liner with light and power distribution system.

Partition wall

Partition wall can be installed with or without the inner liner separating space into smaller rooms.
Installation without the inner liner: installation on the rope along air beam with plastic hooks (Figure 32). Start from the bottom and continue along the air beam.
Installation with the inner liner: installation on visible band on inner liner along the air beam with plastic hooks (Figure 31).

Figure 32.Partition wall installed directly on the air beam.

Gable-to-Gable connector

Installing the Gable-to-Gable Connector

Do not drag the tent along the ground while moving as this can damage the PVC.

1. Unhook the floor fixing point from the roof flip overlapping on both gable walls (Figure 33).

Figure 33

2. Remove the gable walls from the tents by unzipping the zipper along the outer edge of the tent's roof. Disconnect the Velcro at floor lever (Figure 34).
3. To be connected, tents should be placed with approximately 30 cm gap from floor to floor.

Figure 34

4. Locate the floor part of the connection. Align the floor piece with the tent floor. Place the 2-sided Velcro over the Velcro strip on the tent floor (no-slip pattern up) (Figure 35).

Figure 35

5. Connect the roof part using the zippers (Figure 36).

Figure 36

6. Repeat on the other tent and connect the overlapping Velcro between the roof and floor part of the connector (Figure 37).

Figure 37

7. Outside the tent, there are 2 plastic hooks (Figure 38) – connect these to each other.

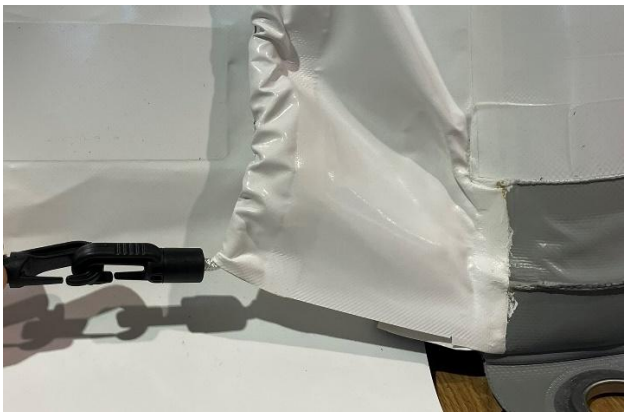


Figure 38

Door-to-Door connector

1. Roll the door inwards and fix it with the clip in place (Figure 39).
2. To be connected, tents should be placed with an approximately 30 cm gap from floor to floor.

Figure 39

3. Connect the floor part to the Velcro strip in the floor of both tents (Figure 40).

Figure 40

4. Open door's zipper Velcro on from the outside.
5. Place the Velcro side-strips of the connector roof the flip over rolled door in both tents.
6. Attach side Velcro part flips in between zipper and outer layer of the PVC-fabric of the door entrance in both tents. Follow and align the Velcro around the entire door along door zippers (Figure 41).

Figure 41

7. Attach Velcro from roof part of the connector to the floor part of the connector (Figure 42).

Figure 42

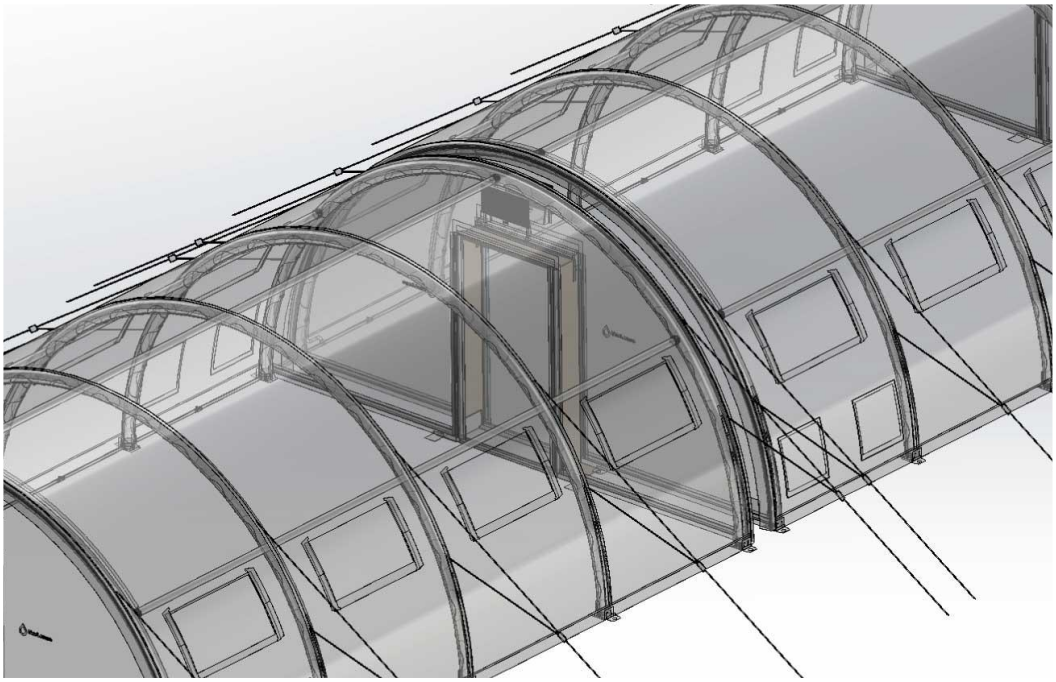


Figure 43. Installed door-to-door connector in place.

Installing the hard door

Pozidriv PZ0 10, 13 mm

1. Roll inwards the PVC door. It prevents water from intruding into the tent (Figure 44).

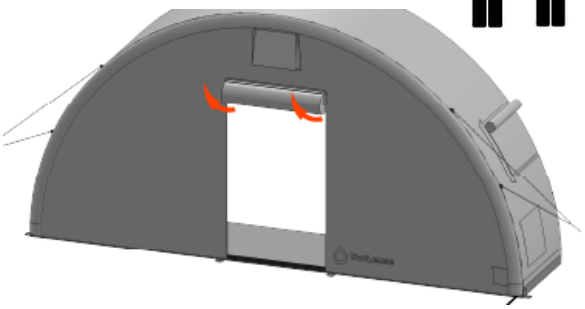


Figure 44

2. Assemble upper frame of the door sliding it in the middle rail. Flat part of horns must be on the same side as door lock side with keys. Keep horn clamps in retracted position (Figure 45).
3. While the door lays flat, attach connecting PVC flaps to the door frame. Start with top part. Side with 2 pieces of Velcro (hook) on the bottom is the inner side. Slide the top part in the front channel (Figure 45, detail A).
4. Check Velcro on both left and right-side pieces: top is where Kedar rail goes all the way to the end of fabric. Insert left and right pieces. Then attach left and right side with matching loop pieces on the top (Figure 45).
5. Assemble the U-shaped support part on the bottom of the door frame. (Figure 45).

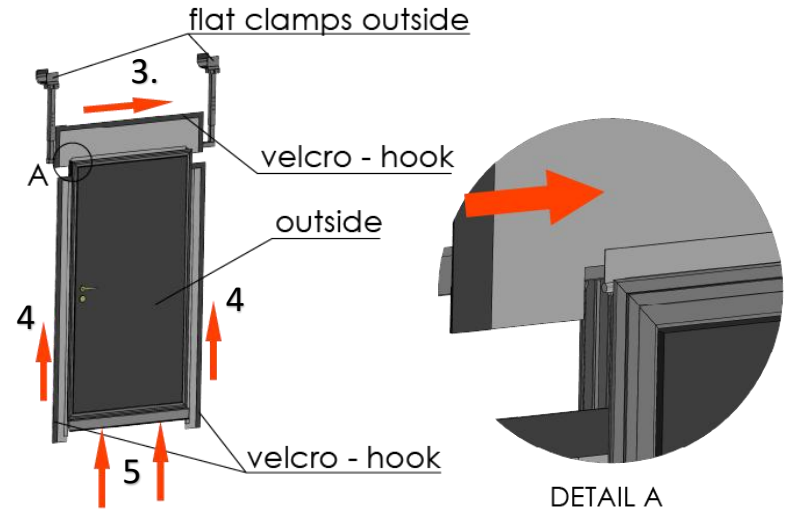


Figure 45

6. Insert the door into the gable keeping flat side of the horns against the gable wall.
7. Adjust height of upper frame (horn clamps) to reach air beam and tighten. Secure position of extendable horns with the screw and tighten (Figure 46).

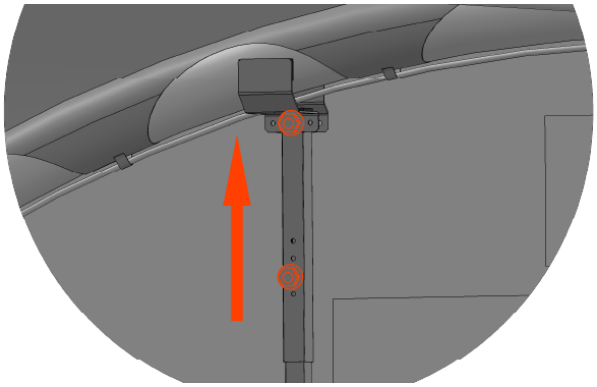


Figure 46

8. On the inside, open first layer of Velcro in between gable flip and zipper. Connect hard door's flaps to the zippers Velcro and close the gable's flip. Connect Velcro of the top part (Figure 47).

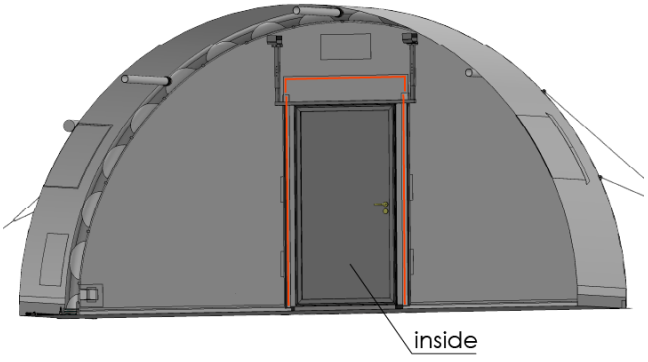


Figure 47

Sun Screen

Operation can be done either on a non-inflated tent or inflated tent.

1. Non-inflated: unfold and place sun screen on non-inflated tent (Figure 48).

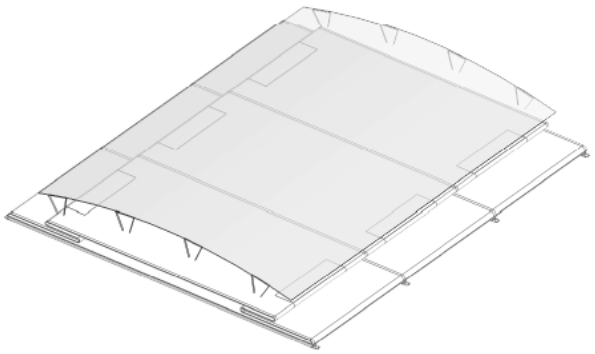


Figure 48

Inflated: unfold and lift sun screen over the gable/short side of the tent (Figure 49).

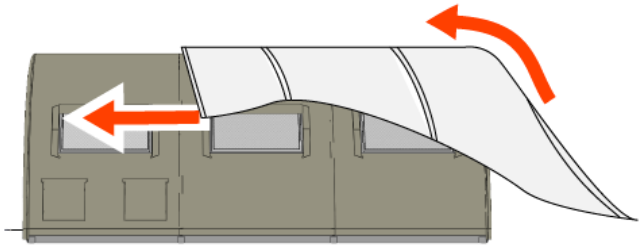


Figure 49

2. Assemble aluminium tent poles by throwing parts away and pull the band to snap each piece into the place (Figure 50).

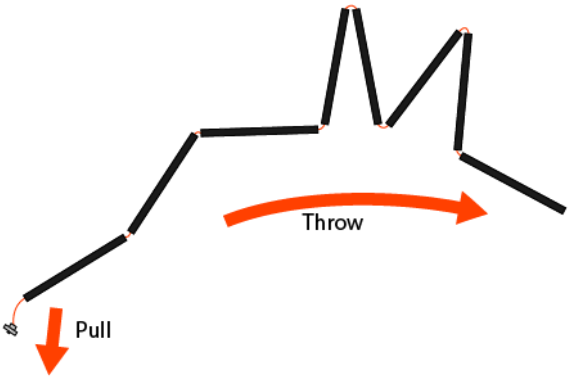


Figure 50

3. Insert poles into sleeves of sun screen (Figure 51). Length of the pole outside of sunscreen's sleeve: 135 cm (for 5M series).

NOTE: If non-inflated, inflate the tent before next operation.

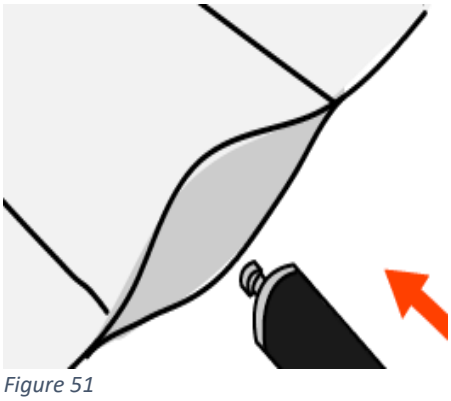


Figure 51

4. Insert poles into ground mounting points, tighten the band (Figure 52).

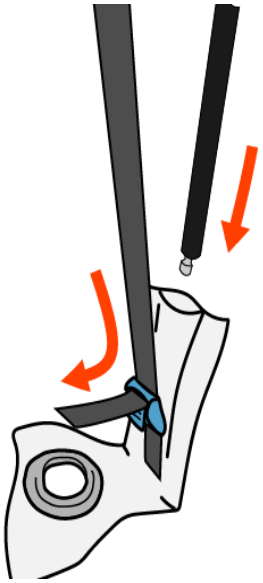


Figure 52

5. On each gable/end there are 5 anchoring points. Insert band through the eyelet on the tent and back through the clamp and tighten down (Figure 53).

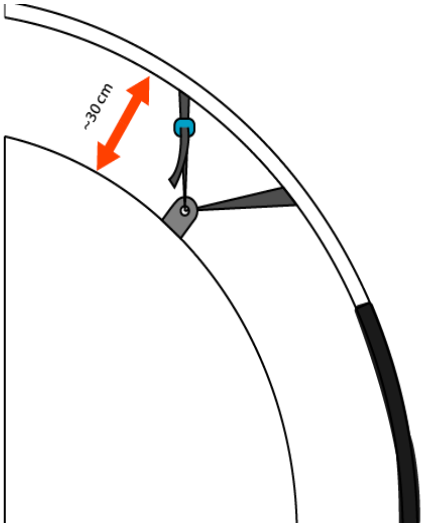


Figure 53

6. Tighten straps evenly around the whole tent. Attach a guy rope on the loop on top of the sun screen above each gable wall – marked orange on Figure 54.

Figure 54

NOTE: The sunscreen should not be used in heavy winds.
It is recommended to use the front guy ropes.
For disassembly always remove straps before removing poles.

Maintenance & Cleaning

Generally, very little maintenance is required for the Swift tents.
We recommend visual inspection before and after use. Check the following:

- Leakage from the air frame
- Tears or damaged fabric
- Broken zipper-teeth
- Damaged guy ropes
- Bent or missing tent pegs

During long time use, the following should be done by need:

- Snow removal
- Re-tension of guy ropes
- Cleaning
- Air pressure should be checked every 14th day

Lifespan

The NorLense tents are supposed to last for a minimum of 15 years on the condition that they are properly used and maintained according to this manual. Expanding the lifespan of the tent is possible through regular maintenance.

Storage

We recommend storing the tent inside when not in use. If the tent is washed and dried before storage, there is no special maintenance required. Visual inspection of the tent should however be conducted every time the tent is in use, so that any defects can be repaired on an ongoing basis and at an early stage.

Cleaning the tent

The material used in the tent can be washed with water, mild soap and disinfectant using mops, soft brushes or sponges. It is not recommended to use pressure washers, as this may damage the fabric. Typically, household all-purpose cleaning agents are suitable for cleaning. Be cautious while using abrasive soaps. Rubbing alcohol can be used for particularly hard spots, but this may bleach the fabric. Make sure to properly ventilate the tent during, and after use to avoid alcohol vapours inside the tent.

Cleaning the inner tent

The inner tent can be machine washed following instructions:

40˚C water temperature


do not bleach


do not iron

use any solvent except tetrachloroethylene


tumble dry on low heat

Drying

The most effective way to dry the tent after use or cleaning is to inflate it and let it airdry while it is hanging in a special frame. The idea of this is that all fabric should be free from ground and allowed to dry in free air. The frame is attached to the eyelets used for the guy ropes (marked blue on Figure 55). NorLense can supply such frames. If a frame is not available, lift the side of the tent using eyelets for guy ropes or side tent pegs fixing points (marked orange on Figure 55) to lift the tent anchoring it to a stable object (like container, truck or a building).

Figure 55. Drying the tent using frame. Attachment points marked with orange arrows (tent peg fixing points) and blue arrows (guy ropes fixing points).

Field repairs

Field Repair Kit

Number	Description complete set	Quantity	
Colour specific #	PVC-Fabric Outer Layer	1	m^2
Colour specific #	PVC-Fabric Floor Layer	1	m^2
500.400.515	Fabric Inner liner	0.5	m^2
200.450.552	Guy Ropes	2	pcs
500.200.217	Zippers for door	2	pcs
200.450.545	Rope 8mm Nylon White	4	m
200.450.612	Tear-Aid Type B	1	pcs
200.450.600	PVC-Glue 40ml Tube	1	pcs
200.300.041	Scissors	1	pcs

Contents of the bag may vary

Repair of PVC-Fabric

For small tears or holes, use the Tear-Aid Type B (Figure 56) found in the Field Repair Kit. Follow the instruction on the package. For any damages to the floor fabric or bigger damages to any other PVC, we recommend to repair with new fabric and glue.

Figure 56. Tear-Aid Type B

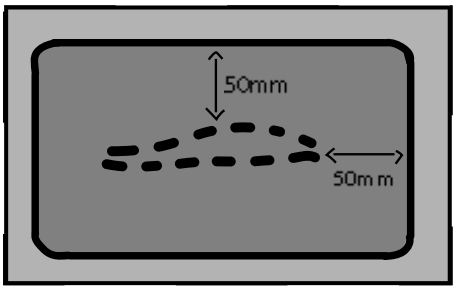


Figure 57. Repair patch instructions

1. Cut a piece of fabric from the spare fabric found in the Field Repair Kit. The patch should be overlapping with min. 50mm in all directions (Figure 57). Round the corners.
2. Before glue is applied, both the patch and the damaged area needs to be cleaned with rubbing alcohol and lightly roughed up with sandpaper or other abrasive material.
3. Apply glue to the patch and damaged area. Allow the glue to dry for approximately 3 minutes at room temperature without pressing the surfaces together. Lightly tap the glue; it should not stick to your finger. If working in lower temperatures, extend the drying time or warm the patch and working area slightly to ensure proper adhesion.
4. Place the patch over the damaged area. A hard surface should be placed underneath. Put pressure on the patch, starting from centre and outwards removing air bubbles.
5. Let dry for 15-20 min. In low temperatures, allow for longer time to dry.
6. After repair, verify the patch-fabric connection, especially in cold climates.

Repair of the inner liner

Any damages to the fabric of the inner liner can be done the same way as with the PVC-fabric using materials for inner liner from the Field Repair Kit.

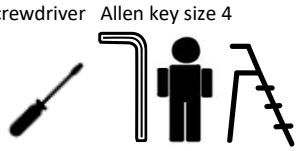
Change of windows

UV-light (incl. sun) can damage the transparent layer of the window over time, bending the window at very low temperature can crack the transparent PVC. The transparent layer is detachable and can be exchanged.

Substantial damage to PVC-Fabric

For large damage to the tent, we recommend contacting NorLense for repair.

Replacing air beams



In the event of a leakage from any part of the air system, a replacement part should be ordered. Do not try to repair these parts. Allen key wrench 4, flat screwdriver and a ladder are required for the procedure.

NOTE: The easiest way to change the air beams/ air distance rods is while the tent is inflated.

1. Close the ball valves on both sides of the defective air beam (Figure 58).
2. Remove the rope that keeps the air beam fixed in the tent. The rope is tied to the floor on both sides (Figure 59).
3. Unscrew the hose clamp on both ends of the air beam. On the bottom of the aluminium coupling, there are 4 pcs Allen M5 x 20mm screws that must be removed. Pull out the air distribution hoses (Figure 60).
4. The defective air beam can now be removed.
5. Assembly of new air beams follows the reverse steps 1-4.
6. When the new air beam is mounted, open all the ball valves in the tent to fill the new air beam with air.
7. This gives a pressure drop in the tent structure. Take the dust cap off, connect and start the compressor. Fill the air system in the tent to the correct pressure 6-8 bar (87 to 116 psi), recommended 8 bar. Disconnect the compressor and attach the dust cap. Close all the vents on the air hoses.

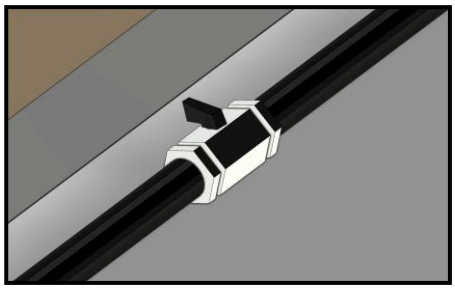


Figure 58

Figure 59

Figure 60

Spare parts

NL part no.	Description
Colour specific #	PVC-Fabric Outer Layer
Colour specific #	PVC-Fabric Floor Layer
500.400.515	Fabric Inner liner
200.450.552	Guy Ropes
500.200.217	Zippers for door
200.450.545	Rope 8mm Nylon White
200.450.612	Tear-Aid Type B
200.450.600	PVC-Glue 40ml Tube
500.200.210	Tent Pegs 40 cm
500.200.211	Tent Pegs 50cm
500.200.248	Bag for Tent Pegs
500.200.212	Hammer 1.8kg
200.350.100	Manometer
500.200.244	Bag for Manometer
500.900.910	Window 112x61cm STD Clear
500.350.250	Air Hose 2m w/ valve
10230	Air beam 4” Swift 3M Series
10184	Air beam 4” Swift 4M Series
10022	Air beam 4" Swift 5M Series
10008	Air beam 5" Swift 6M Series
11235	Air beam 5" Swift 7M Series
10871	Air beam 5" Swift 8M Series
10026	Horizontal air beam 4m
10024	Horizontal air beam 6m
10010	Horizontal air beam 8m
10028	Horizontal air beam 10m

For other inquiries, please contact us at shelter@norlense.com

Compressor 5/22S w/filling hose

A compressor or other air source is required to inflate the tent. Due to its small size, and pre-set max pressure of 8 bar, we recommend the 5/22S (Figure 61). The compressor has a handle and wheels for easy transport.

Technical specifications

- NorLense part no.:	500.350.303
- Voltage	230 V
- Effective capacity	260 l/min (150 l/min @6 bar)
- Max pressure	10 bar (auto stop @8 bar)
- Weight	27 kg
- Dimensions	59x34x38 cm
- Tank volume	5 l
- Power	2 hp / 1,5 kW
- Amperage	Min. 7 A

Figure 61. 5/22S compressor picture.

User instructions - compressor

This is a general instruction on how to use the compressor for tent purposes. Always follow the instructions and guidelines from the manufacturer of the compressor.

Figure 62

1. Before and after use, check for visible damages.
2. Set the red switch to OFF before connecting to power supply (Figure 62).
3. The compressor shall be connected to a 230 V single-phase power supply.
4. Uncoil any extension cables.
5. Attach hose to compressor with quick coupling.
6. Start the compressor by turning the switch to AUTO.
7. Do not run the compressor continuously for more than 40 min to prevent overheating
8. The compressor should be protected against rain if used outside.
9. After use, the compressors condensation tank should be emptied. Valve is located underneath the tank (Figure 63). Unscrew with hand to empty.
10. Connect compressor to the 2-way adapter located on the air filling hose of the tent.
11. The compressor stops once the pressure in the tent reaches 8 bar.

Figure 63

NOTE: For other compressors without a pre-set or adjustable relief valve, use the manometer to measure the pressure in the opposite side of the tent.

Using the compressor with ejector

For easier packing and a more compact pack volume of the tent, an ejector can be used to evacuate the remaining air of the tent.

The Ejector works by using the air flow from the compressor to create an under-pressure in the tent system, forcing the remaining air out of the tent (Figure 64).

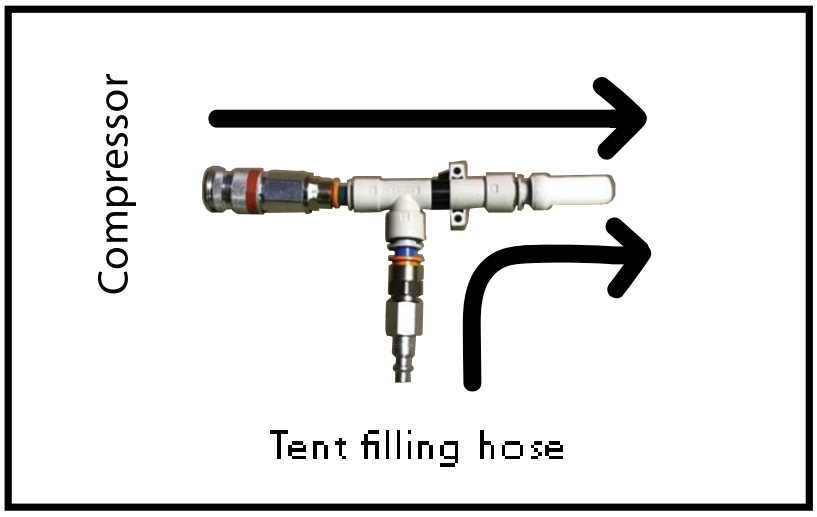


Figure 64. Principle of function – ejector.

NorLense

for the good of mankind and environment

See video and user manuals in EN/SV/FR

NorLense AS
Bømyrveien 39
8317 Strønstad
Norway

www.norlense.com
shelter@norlense.com
+47 76 11 81 80