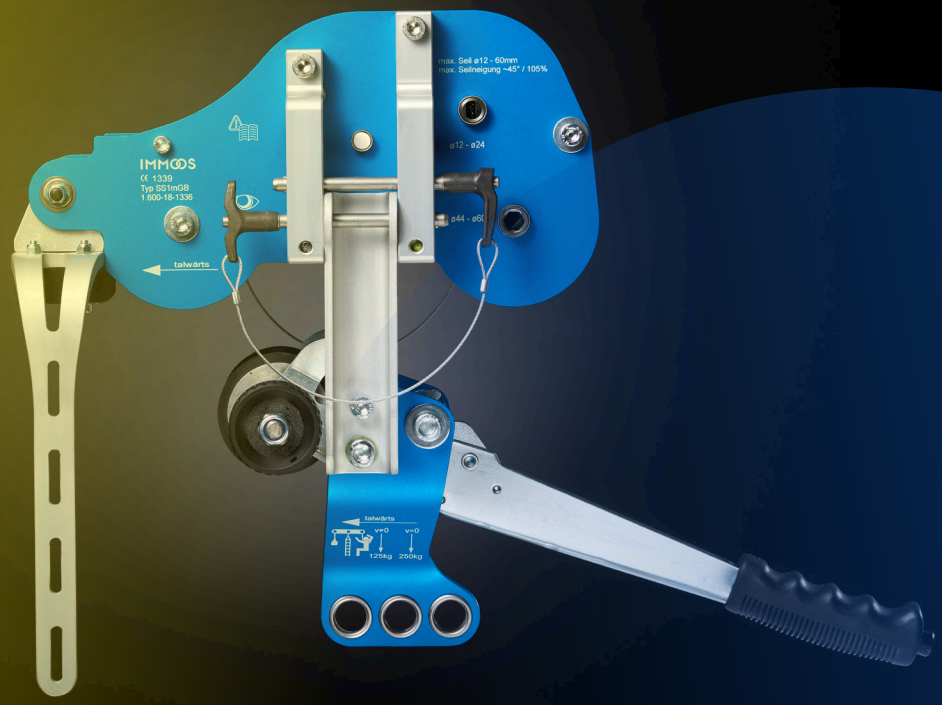
IMMOOS

Evacuation and safety solutions

Operating Instructions IMMOOS self-driven carriage Type SS1 mGB | SS1 oGB | SS1 Twin | SS2 mGB



Corresponds to the current regulation (EU) 2016/424 "on cable cars" and is certified as a safety component

GA_EN_Seilfahrgerät_Type_SS1_Rev11; Date: 09/2020

Inhaltsverzeichnis

1. Important information

A corresponding risk analysis must be carried out before travelling on a cable.
In the case of cable cars, the tensioning device must absolutely prevent any movement of the cable and the system must be secured against travelling unintentionally.
If any high-voltage lines are to be passed, they must be disconnected and secured against being switched on again.

These operating instructions relate to the IMMOOS self-driven carriage type SS1 mGB / SS1 oGB / SS1 mGB Twin and SS2 mGB. Before using the self-driven carriage, you must read and understand these operating instructions fully. Keep this as product documentation.

The operating instructions of the various products used in conjunction with the IMMOOS self-driven carriage must always be complied with.

Users must be in good health for activities at high altitude. Motionless suspension in a belt can lead to serious injuries or even death (suspension trauma!). Learning how to use the self-driven carriage and appropriate safety measures is solely your responsibility.

The IMMOOS self-driven carriage may only be used by instructed and trained, expert personnel. The training must be conducted by IMMOOS or an authorized body. IMMOOS recommends taking a refresher course every three years.

The *Film* as well as the operating instructions of the self-driven carriage serve as an aid and do not replace the obligatory training by IMMOOS specialists or by a body authorized by IMMOOS.

You are responsible for observing the warning notices and using your product properly. Any incorrect use of the product entails an additional source of danger. If you have any doubts or anything is unclear, please contact IMMOOS.

No changes may be made to the self-driven carriages.

After a severe fall or impact (fall of the product itself or an object onto the product), this product may no longer be used. Any deformation can impair the function of the self-driven carriage or internal non-visible fractures can reduce its strength.

If there are any doubts regarding the condition and functionality, please send the affected self-driven carriage to IMMOOS GmbH or to a service point authorized by IMMOOS GmbH for maintenance and inspection.

The annual expert inspections must always be documented.

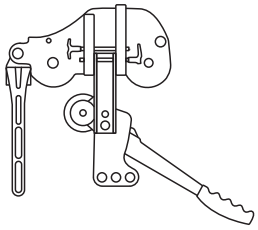
The IMMOOS-self-driven carriage has been certified in accordance with the regulation (EU) 2016/424.

The IMMOOS self-driven carriage type SS1 / SS2 is designed for travelling on stranded ropes (also with plastic profiles, such as the Performa rope). The self-driven carriage may only be used for the purpose intended. Other applications, such as the transportation of equipment, are not allowed.

2. Technical specifications

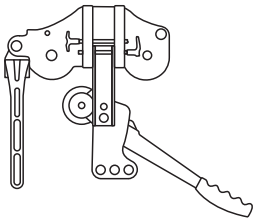
SS1 mGB

Self-driven carriage with automatic centrifugal brake, dead man's brake and hand brake.



SS1 oGB

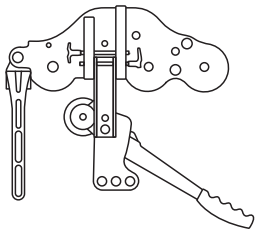
Self-driven carriage with dead man's brake and hand brake but without automatic centrifugal brake. Suitable for level cable sections.



Cable diameter	12 – 60 mm	12 – 60 mm
max. cable incline	105% (~45°)	50% (~26,5°)
Dimensions (H × W × D)	54 × 36 × 21 cm	54 × 35 × 21 cm
Weight	approx. 7 kg	approx. 5 kg
max. speed	approx. 1,8 m/s	approx. 1,8 m/s*
Working load (v ≠ 0)	125 kg (1,25 kN)	125 kg (1,25 kN)
Working load (v = 0)	250 kg (2,5 kN)	250 kg (2,5 kN)
ified according to directive	(EU) 2016/424 relating to cableway installations and European standard 1909	(EU) 2016/424 relating to cableway installations and European standard 1909

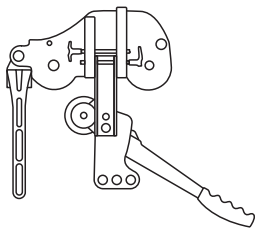
SS1 mGB Twin

Self-driven carriage with automatic centrifugal brake, dead man's brake and hand brake. Low wear thanks to second drive roller. Suitable for long, steep cable sections.



SS2 mGB

Self-driven carriage with automatic centrifugal brake, dead man's brake and hand brake. Suitable for larger cable diameters.



Cable diameter	12 – 60 mm	30 – 75 mm
max. cable incline	105% (~45°)	105% (~45°)
Dimensions (H × W × D)	65 × 36 × 21 cm	54 × 38 × 22 cm
Weight	approx. 7 kg	approx. 7 kg
max. speed	approx. 1,8 m/s	approx. 1,8 m/s
Working load (v ≠ 0)	125 kg (1,25 kN)	125 kg (1,25 kN)
Working load (v = 0)	250 kg (2,5 kN)	250 kg (2,5 kN)
ified according to directive	(EU) 2016/424 relating to cableway installations and European standard 1909	(EU) 2016/424 relating to cableway installations and European standard 1909

3. Description

The IMMOOS self-driven carriages type SS1 / SS2 are predominantly used for travelling on rope without a restraint rope.

If the self-driven carriage is travelling, the maximum payload capacity is 125 kg (v ≠ 0). If the device comes to a standstill using the dead man's brake, 250 kg are permitted (v = 0).

The self-driven carriage basically consists of:
- A body with a drive brake roller, guide roller and back pressure roller.
- An automatic centrifugal brake to limit the speed at approx. 1.8 m/s (only SS1 mGB /SS1 mGB Twin/SS2 mGB).
- A hinged suspension as a connection with the lower part.
- Quick-release pins on both sides for setting the correct cable diameter.
- A suspension with three attachment points

mGB = with speed limit

The IMMOOS self-driven carriages SS1 mGB / SS1 mGB Twin / SS2 mGB are equipped with an automatically effective centrifugal brake. They are approved for a max. cable slope of up to 105%.

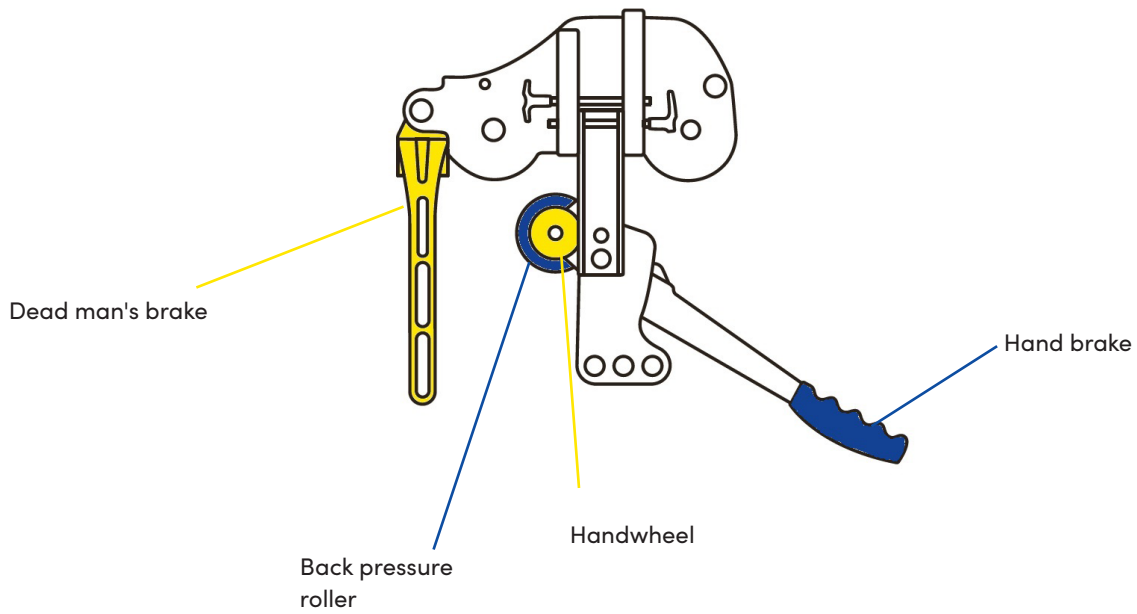
oGB = without speed limit

The IMMOOS self-driven carriage SS1 oGB does not have an automatically effective centrifugal brake. This carriage is approved for a max. cable slope of up to 50%.

All self-driven carriages have a hand brake. The speed in front of obstacles can also be reduced with it.

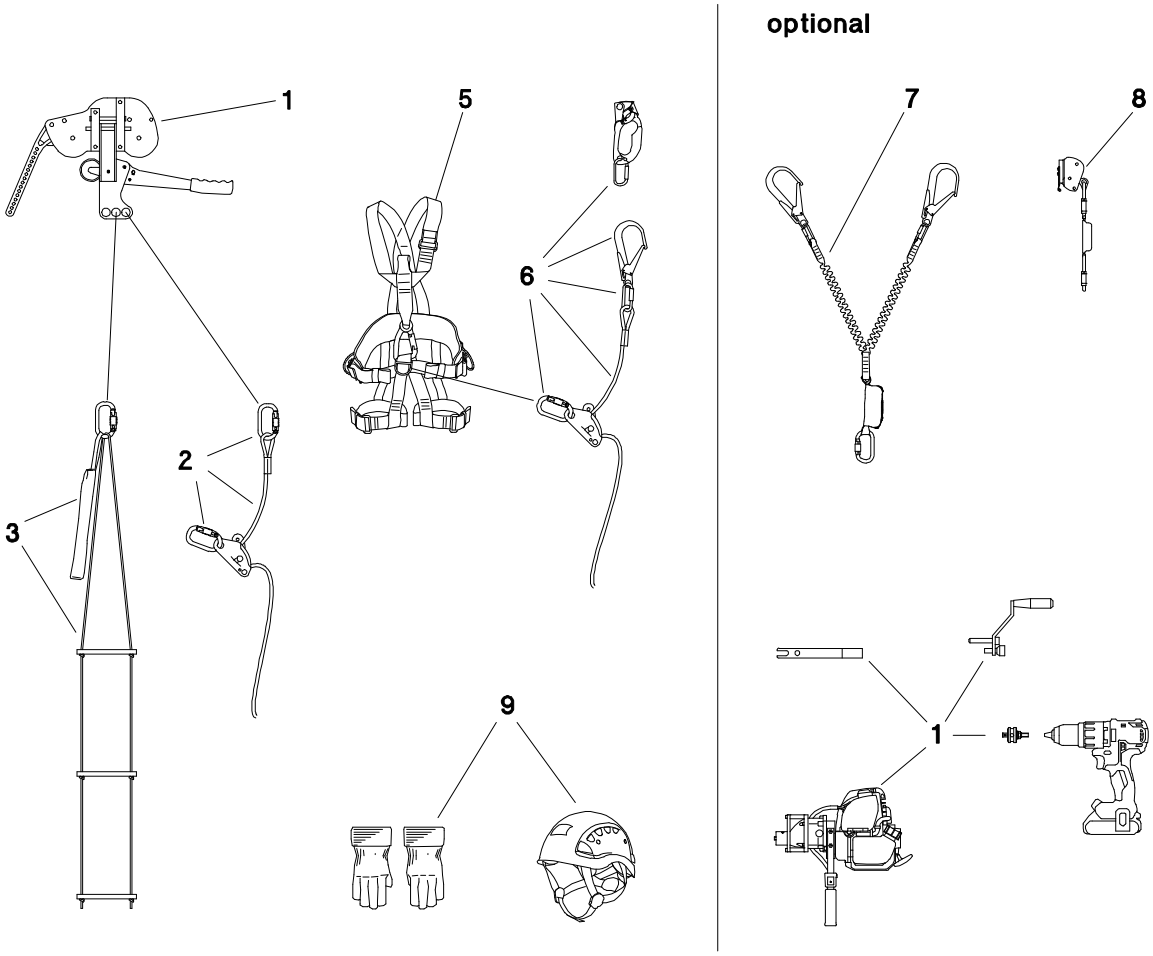
The dead man's brake must always be pushed as far forward as possible when travelling so that the rubber no longer touches the rope. It stops the self-driven carriage if it is unable to act.

The handwheel on the back pressure roller provides additional braking action in steep terrain. It may only be tightened so far that the back pressure roller can still rotate at any time.



The IMMOOS self-driven carriage type SS1 / SS2 is only authorised for travelling on stranded ropes (also with plastic profiles, such as the Performa wire rope)!

4. Presentation of the self-driven carriage equipment



Carrier rope travel equipment

1. IMMOOS type SS1 / SS2 self-driven carriage
2. Lanyard with rope shortener incl. two O-carabiners
3. Descent and ascent aids with karabiners and equipment bag
5. Safety harness with a seat belt eyelet in accordance with EN 813 and a Sternal safety harness eyelet in accordance with EN 361
6. Lanyard with rope shortener, two O-carabiners, aluminium safety hook, hand ascent clamp with carabiner
9. Work gloves and safety helmet

optional

1. Adapter to SS1, 6-Kt
1. Manual drive (1 crank)
1. Adapter to SS1 with failure locking ring
1. Cordless drill
1. IMMOOS four-stroke motor drive for SS1 with flange
7. Fastener Y with sewn-in fall impact absorber, two aluminium safety hooks, carabiner
8. Fall arrester with fall impact absorber

Thanks to the four-stroke motor drive, rescuers can also move themselves (up to max. 36% / ~ 20°) uphill independently. In addition, the operating instructions "GA_DE_Zusatz_SS1mitMotor" must be complied with.

5. Preparation

The material must be checked for completeness and condition each time before use.

The cable driver wears full personal protective equipment.

5.1 Setting the cable diameter correctly

Before mounting, the self-driven carriage type is adjusted to the appropriate cable diameter. The following markings apply to the three cable diameters:

The correct cable diameter is set by moving the quick-release pins on both sides. At the same time, the lower quick-release pin, which holds the lower part in place, shows the diameter. The upper quick-release pin serves as a limit (stop) for the hinged suspension.

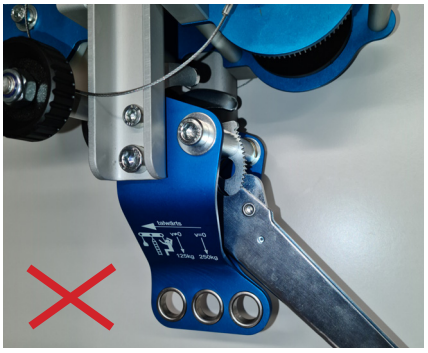
If the cable diameter is almost at the lower limit of a range and the rollers of the self-driven carriage are already a little worn, the next smaller range can be set. In general, as soon as it has been placed on the rope, the hand brake lever in the carriage **must always have a reserve of at least two to three teeth upwards and downwards.**

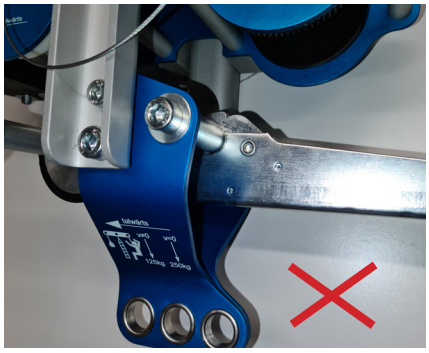
SS1 mGB / SS1 oGB / SS1 mGB Twin

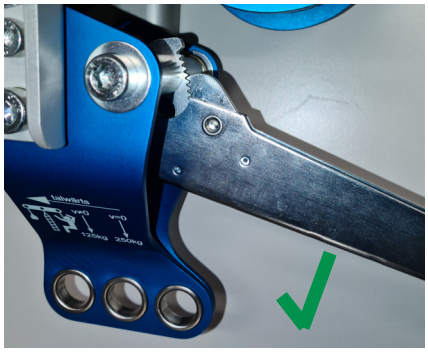
Area:	Effective cable diameter:
12 - 24 mm	12 - 27 mm
24 - 44 mm	24 - 48 mm
44 - 60 mm	44 - 60 mm

SS2 mGB

Area:	Effective cable diameter:
30 - 46 mm	30 - 50 mm
46 - 64 mm	46 - 68 mm
64 - 75 mm	64 - 75 mm

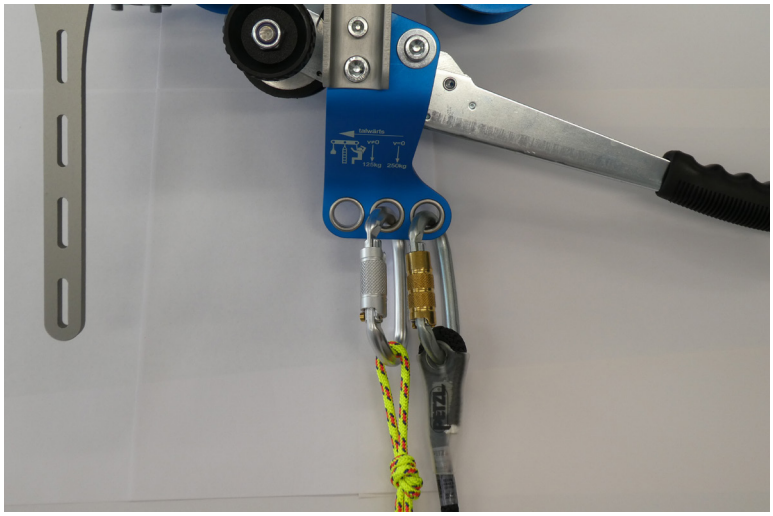






Before mounting the carriage, the length-adjustable fastener attached to the central fastening point (EN 813) should be mounted in one of the three positioning holes.

The carabiner of the lanyard is always hooked into the rearmost eyelet. In the case of flat rope sections (<10 °), the lanyard must be hooked into the middle eyelet.
The descent and ascent aid is to be hung in one of the free eyelets.



6. Mounting the self-driven carriage

Pay attention to the "downhill" arrow. This must always point downhill when travelling uphill and downhill.

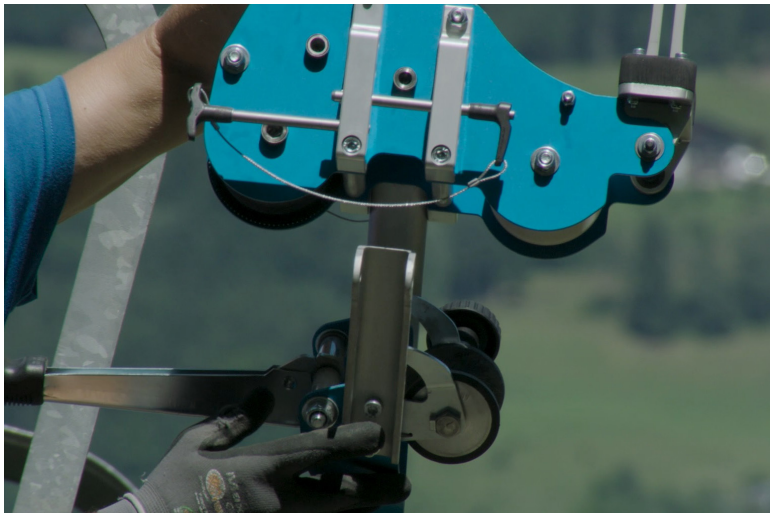
The hook of the fastener must be attached at a suitable place for every action.

The self-driven carriage always remains connected to the rescuer by means of the shorter fastener. This prevents the self-driven carriage from falling.

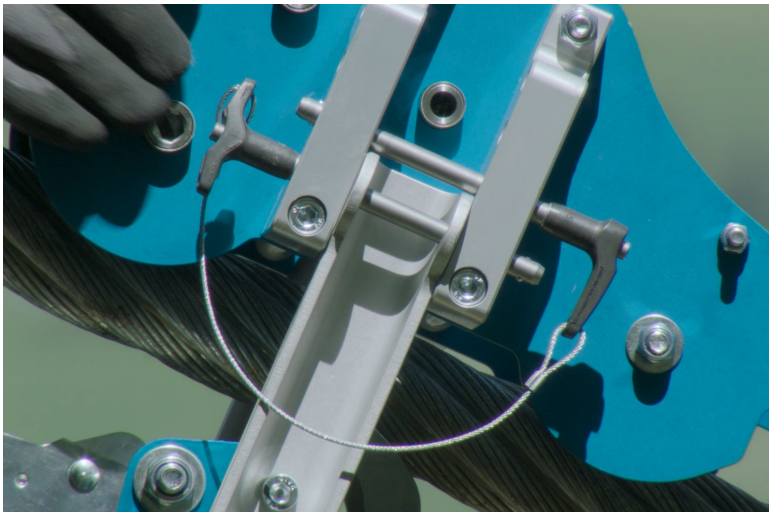
The rescuer brings himself into a comfortable position so that he can place the self-driven carriage onto the rope.

The dead man's brake and hand brake must be fully released.

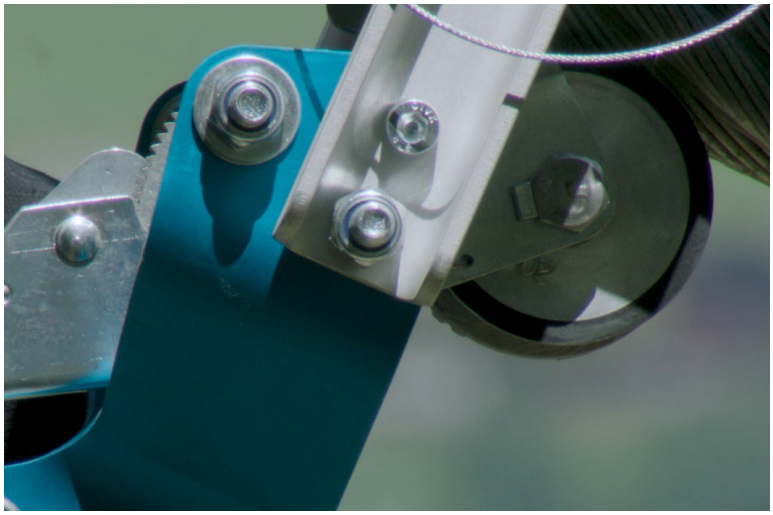
The self-driven carriage is opened by pulling out the lower quick-release pin on one side. The lower part folds out.



The self-driven carriage is put on the stranded rope and inclined until the lower part (suspension) collapses up to the stop. The lower quick-release pin is reinserted and the self-driven carriage is thereby locked. It is important that the quick-release pin is pushed in as far as it will go.



This must be checked visually and by pulling the quick-release pin without pressing the push button. At the same time, it must not be possible to pull out the quick-release pin.



The hand brake is now applied. **It must be checked whether the hand brake lever is at least two to three teeth away from the upper and lower stop.** If this is not the case, the cable diameter must be readjusted.

After the inspection, the carriage is fixed with the dead man's brake. The self-driven carriage is now ready for travelling on the rope. The dead man's brake and braked back pressure roller prevent the self-driven carriage from driving away. Note: The back pressure roller can also be braked with the locking screw.

7. Entering the carriage

The descent aid can be used to descend to the self-driven carriage. During the descent, the lanyard must be shortened with the rope shortener to the stop. The descent aid can then be packed.

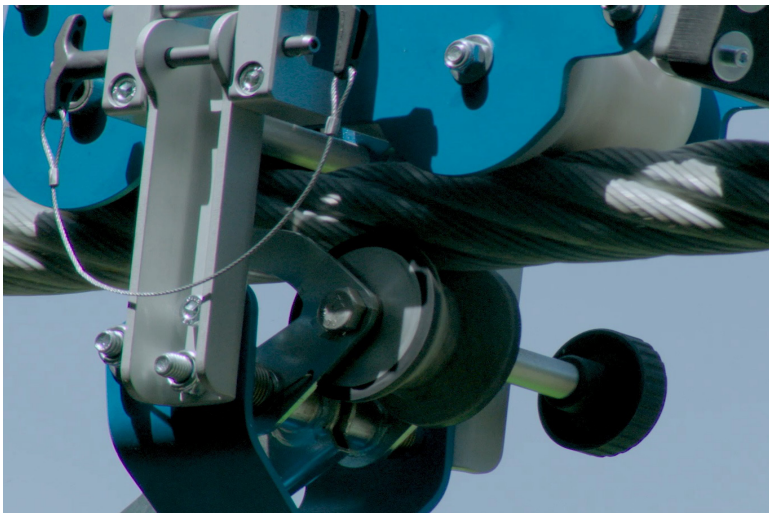
The short lanyard with rope shortener must be shortened to the stop before moving off.

All carabiners must hang straight down to prevent transverse loading.

8. Travelling with the self-driven carriage

Before moving off, the dead man's brake must always be released first. Most of the time, the self-driven carriage then starts moving. If not, the hand brake must be opened by a tooth.

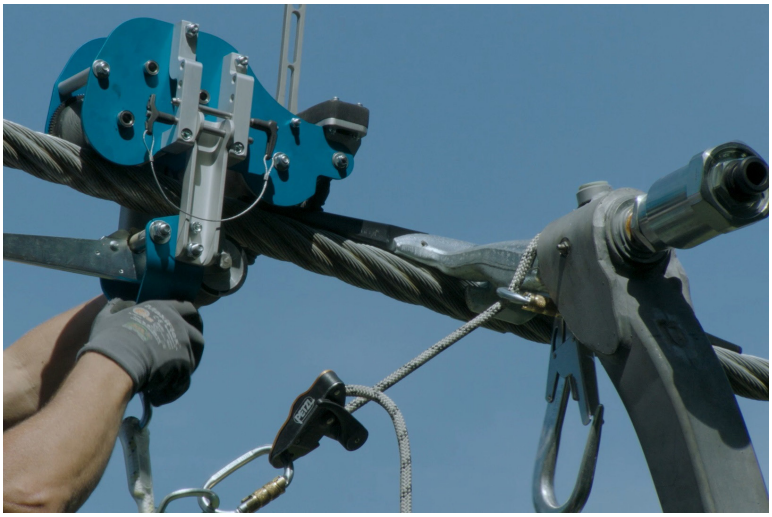
During the entire travel, the back pressure roller of the handbrake lever must be on the cable.

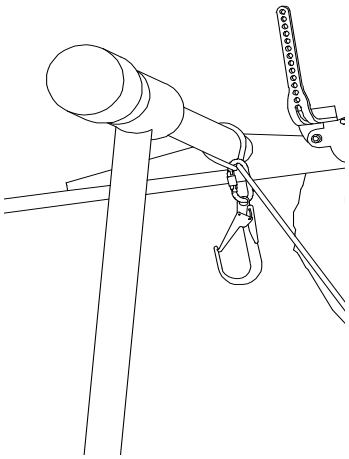


The dead man's brake must be held so far forward that it does not touch the cable. Its purpose is not to reduce speed.
When travelling downhill, the dead man's brake must not be folded up completely.

Shortly before reaching an obstacle, the rescuer slowly brakes using the hand brake. The dead man's brake is folded all the way up. The rescuer moves as close as possible to the clamp.
After reaching the run-on tongue, the hand brake can also be fully released.

The rescuer secures himself with the longer lanyard at a suitable point on the carriage. The longer lanyard must be pulled tightly.
The shorter lanyard is extended and then removed from the safety harness for descending to the vehicle.





9. Climbing over a carriage

The self-driven carriage is opened by pulling out the lower quick-release pin on the outside. The lower part is opened so far that the carriage can be pushed over the clamp.

On the other side of the clamp, the self-driven carriage is tilted so that it can be folded up to the stop and secured with the quick-release pin.
Important: Insert the quick-release pin fully!

The rescuer attaches the hook of the longer lanyard to the rope behind the self-driven carriage and shortens the shorter lanyard up to the stop. The self-driven carriage is ready for travelling further.
Before travelling further, make sure that all lanyards are detached from the carriage.

10. Flat Rope Sections

Flat rope sections can be travelled on easily with various aids. When travelling on flat rope sections, the rescuer mounts himself in the middle eyelet of the self-driven carriage. The dead man's brake can be released completely.

A hand crank can be used on short, flat rope sections.

A cordless drill with the appropriate insert can be used for longer, flat rope sections and slight gradients.

11. Travelling uphill

Gradients of up to 36 percent can be mastered with our four-stroke motor drive. You can find further information in the operating instructions "Supplement to Operating Instructions for Four-Stroke Motor Drive for IMMOOS Type SS1 Self-Driven Carriage".

When travelling uphill, the dead man's brake should rest on the rope. It serves as a back-stop.

12. Care and Maintenance

- The IMMOOS self-driven carriage must be stored in a dry and dust-free environment with low temperature fluctuations.
- Clean the self-driven carriage with warm water or neutral soap. Do not use any aggressive cleaning agents or chemicals.
- The brake dust of the automatic centrifugal brake must be blown out by compressed air.
- Gears should ideally be lubricated with the dry lubricant "Interflon Fin Super" or an equivalent lubricant.
- If the device gets wet during usage or by cleaning, it must dry naturally and be kept away from direct heat.

13. Regular Inspection

Damaged or incomplete carriages must not be used.
In case of doubt, the self-driven carriage must not be used.

Your safety depends on the condition of your carriage.

Each time before use, the self-driven carriage must be examined visually by the user.

A visual and functional check of the carriage must be carried out every 12 months at least by a qualified person authorised by IMMOOS (in accordance with national regulations).

The following points must be observed during the inspection:

- General condition
- Scratches, cracks, sharp edges on the sheet metal parts
- Deformations
- Condition of the rubber of all rollers
- Condition of the gears (no broken teeth, no dirt between the teeth)
- Condition of the dead man's brake
- Condition of the quick-release pin
- Legibility of the marking

Function check

- Rollers (Rollers must turn freely)
- When releasing the dead man's brake lever it must collapse into itself as a result of the spring force
- The hand brake can be easily pulled down and clicks into place in any position. The hand brake can be easily released by pressing the button.
- The back pressure roller can be turned smoothly and can be clamped by the handwheel.
- The second drive/brake roller is to be rotated using a high-speed drill and the appropriate insert. At the same time, the automatic centrifugal brake must warm up noticeably.

The annual inspection must be documented.

In cases of doubt, the IMMOOS GmbH or a service point authorised by IMMOOS must carry out an inspection.

Dismantling the self-driven carriage or making changes is not permitted.

14. Service Life / Inspection

The service life depends on the intensity and frequency of use as well as the handling of this product. Certain factors such as salt, snow, ice, moisture, sand etc. (list not exhaustive) can also negatively affect the service life to a considerable extent.

An inspection by IMMOOS or a body authorized by IMMOOS is absolutely necessary

- If the rubber rollers are too worn
- If the gearbox is damaged
- In the event of other serious damage to the carriage
- After travelling 10,000 metres by rope
- After 10 years at the latest

All parts subject to wear and tear (rubber rollers, dead man's brake pads and the automatic centrifugal brake) must be replaced every ten years.
The service life of the metal parts is unlimited if handled, stored and maintained correctly.

15. Warranty

We grant an unlimited warranty against material and manufacturing defects on products manufactured by us.
To enable us to investigate the cause, it is important that all uses and inspections are documented without gaps. The form for the documentation can be found at the end of this operating manual.
Excluded from the warranty are: improper use, use for purposes not intended, oxidation, unauthorized modification, regular wear and tear or aging (e.g. due to UV radiation).
Warranty expires if the self-driven carriage is used by untrained users.
Guarantee claims and cases are reported directly to IMMOOS for processing.

16. Exclusion of liability

IMMOOS GmbH declines any liability or obligation to pay damages if accidents or damage are attributable to:

- noncompliance with legal and official regulations
- noncompliance with rules or contractually agreed conditions of IMMOOS GmbH
- non-intended use of the IMMOOS self-driven carriage type SS1 / SS2
- unauthorized changes to parts of the device
- replacement of parts with other materials
- extra stress on parts
- parts not designed, manufactured and supplied by IMMOOS GmbH
- sabotage, acts of war and cases of force majeure
- inspections that are carried out by authorized service centres

If the carriage is sold in countries that speak other languages, the dealer must ensure that the instructions for use are supplied in the respective national language.

17. Documentation of the annual expert inspection

Prescribed verification of the inspection conducted.

Product:	IMMOOS self-driven carriage Type SS1 / SS2	Serial number:.....
Owner		

Purchase date	Date of first use
.....	.....

Date of inspection	Assessment of deficiencies found	Official stamp / signature

18. Documentation of the distances travelled in use

Product: IMMOOS self-driven carriage Type SS1 / SS2	Serial number:.....
Owner	

Purchase date	Date of first use
.....	.....

Date	Distance m	Number	Total distance	Official stamp / signature

Notes

Headquarters

Immoos GmbH
Tramweg 35
6414 Oberarth
Switzerland
T +41 41 857 06 66

Branch

Austria
Immoos GmbH
Kirchstrasse 32
6923 Lauterach
Austria
T +43 664 134 44 38

info@immoos.com
www.immoos.com