

## Operating Instructions

### WHEELCHAIR ACCESSIBLE VEHICLE WITH REAR CUT FLOOR



[www.amf-bruns.de](http://www.amf-bruns.de)



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## Foreword

Dear Reader,

these Operating Instructions provide all information necessary to operate the Easy and EasyFlex wheelchair access ramps safely.

The access ramp is designed and constructed in accordance with state-of-the-art technology and recognised safety standards. Persons and material assets can however still be at risk, as not all danger areas can be eliminated if the functional capability is to be maintained. Accidents caused by these risks can however be prevented by strictly observing these Operating Instructions. Over and above this, the operational efficiency of the access ramp can be used to the full and unnecessary faults can be prevented.

These Operating Instructions only apply to vehicles with a rear cut-out and an Easy or EasyFlex access ramp.

After reading these Operating Instructions for the first time, keep them in a safe place for future reference over the entire lifetime of the vehicle. If you sell the vehicle, hand these Operating Instructions over to the new owner.

Keep these Operating Instructions in the vehicle so that they can be referred to at any time when problems or questions arise.

All details, figures and dimensions given in these Operating Instructions are non-binding. They cannot be used as the basis for any claims whatsoever.

This document must not be reproduced or duplicated, in full or in part, without the prior, written permission of the manufacturer.

The access ramp must never be converted or modified in any way, without seeking the prior, written permission of the manufacturer. Unauthorised modifications will render the manufacturer's liability and guarantee null and void.

Use only original spare parts or spare parts which have been approved of by the manufacturer. If spare parts other than these are used, this can have a negative effect on the specified characteristics, the functionality and safety of the access ramp. If other spare parts are used, liability for consequential damage will be rendered null and void.

Contact your local dealer or the AMF-Brunns GmbH & Co. KG customer service department to order spare parts or accessories (see Chapter 12, page 71).

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## NOTE

The current version of these Operating Instructions as well as the current versions of supplementary documents (e.g. the instructions for optional equipment) can be found under:

[www.amf-bruns-behindertenfahrzeuge.de/service/download-portal/](http://www.amf-bruns-behindertenfahrzeuge.de/service/download-portal/)

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## Explanation of symbols and signs

To improve understanding, the following conventions should be met for these Operating Instructions:

1.

The following conventions are used to highlight important information:

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### DANGER

...warns of a situation of immediate danger, which can cause severe or fatal injuries if not avoided.

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### WARNING

...warns of a potentially dangerous situation, which can cause severe or fatal injuries if not avoided.

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### CAUTION

...warns of a potentially dangerous situation, which can cause slight injuries, if not avoided

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### ATTENTION

...warns of a potentially dangerous situation, which can cause material damage, if not avoided.

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...contains general notes and useful information.

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...gives a reference to important information contained in other sections and documents.

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2.

Some text passages serve a special purpose. These are identified as follows:

- Lists.
- ⇒ Instructional text, e.g. a sequence of activities.

3.

Meaning of directions:

If directions are given in the text (in front of, front, behind, rear, right, left), these directions relate to the normal direction of travel of the vehicle.

## Contents

<b>1</b>	<b>Safety .....</b>	<b>8</b>
1.1	Proper Use .....	9
1.2	Improper Use .....	10
1.3	User Requirements .....	10
1.4	Product Monitoring .....	11
1.5	Danger Zone .....	11
1.6	Safety Devices .....	12
1.7	Vehicle Characteristics.....	12
1.8	Safety and Accident Prevention Regulations .....	13
<b>2</b>	<b>Description .....</b>	<b>15</b>
2.1	Layout and Function .....	16
2.1.1	Floor section.....	16
2.1.2	Ramp.....	16
2.1.3	Belts and belt fastenings for the wheelchair .....	18
2.1.4	Belts and belt fastenings for the passenger .....	20
2.2	Operating Controls.....	22
2.3	Technical Data .....	23
<b>3</b>	<b>Transportation .....</b>	<b>24</b>
<b>4</b>	<b>Installation / Commissioning .....</b>	<b>24</b>
<b>5</b>	<b>Operation .....</b>	<b>25</b>
5.1	Safety Regulations for Operation .....	25
5.2	Deploying the Ramp.....	28
5.3	Embarking the Passenger.....	32
5.4	Securing the Passenger .....	38
5.4.1	Fastening the belts with a vehicle's own black lap belt .....	39
5.4.2	Fastening the belts with a vehicle-independent red lap belt.....	40
5.4.3	Further steps for all belt versions .....	42
5.5	Disembarking a Passenger .....	43

5.6 EasyFlex: Fully Stowing the Ramp .....	44
5.7 Vehicle Fuel Gauge .....	47
<b>6 Maintenance and Repair .....</b>	<b>48</b>
6.1 Safety Regulations for Maintenance and Repair .....	48
6.2 Routine Maintenance Work .....	49
6.2.1 Maintenance schedule .....	49
6.2.2 Maintenance records .....	49
6.2.3 Maintenance work on the basic vehicle .....	50
6.3 Repair work .....	50
6.4 Functionally Testing the Electrically-Operated Belts .....	50
6.5 Yearly Inspection .....	51
6.6 Maintenance and Repair Record .....	52
<b>7 Decommissioning and Conservation .....</b>	<b>53</b>
<b>8 Disposal .....</b>	<b>53</b>
<b>9 Faults and Troubleshooting .....</b>	<b>54</b>
9.1 Troubleshooting Table .....	55
9.2 Adjusting the Ramp's Play .....	56
<b>10 Inspection Log .....</b>	<b>59</b>
10.1 Inspection Log Master Data Sheet .....	60
10.2 Inspection List .....	61
10.3 Inspection Results .....	62
<b>11 Electrical Circuit Diagrams .....</b>	<b>69</b>
<b>12 Customer Service .....</b>	<b>71</b>

## 1 Safety

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### WARNING

There are a number of risks of suffering personal injury and material damage involved in the operation and maintenance of the access ramp.

Therefore:

- It is imperative, that these Operating Instructions are read thoroughly before operating your access ramp. Always observe the notes and information contained herein, in particular the Safety Instructions.
  - If these Operating Instructions or parts thereof are lost or become illegible, please request a new copy from the manufacturer.
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Prerequisite to the safe handling and trouble-free operation of the access ramp is a thorough knowledge of the applicable safety information and the safety regulations.

It is therefore imperative that this Chapter is read thoroughly before operating the access ramp and that the instructions and warnings herein are strictly observed. The safety instructions and warnings, given at the appropriate places in the following Chapters, must also be strictly observed. The manufacturer will not be held responsible if safety information and warnings are not strictly adhered to.

In addition to the information given in these Operating Instructions, local legislative regulations must be taken into consideration, in particular those regarding safety and accident prevention.

Observe the information given in these Operating Instructions even when there are no disabled persons or wheelchairs being transported.

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For safety information regarding the basic vehicle, refer to the vehicle operating instructions.

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## 1.1 Proper Use

The access ramp must only be used for transporting a disabled person in a wheelchair or an empty wheelchair. By using the ramp, persons can be loaded into or disembarked from the vehicle to which the access ramp is fitted. When doing so, the ramp is operated by an accompanying person.

Use of the ramp requires sufficient space behind the vehicle to deploy, access and drive a wheelchair up or down the ramp. When the ramp is deployed, the entire width of the ramp must rest on a level and firm surface.

In addition to the places for the wheelchairs, the vehicle can also be fitted with optional Tip & Fold seats or Smartseats in the area of the floor section. Some versions of the optional seats fitted can only be used when the space reserved for a wheelchair is not occupied. The seats can then also be used when the EasyFlex ramp is fully stowed in the vehicle.

The wheelchairs to be transported must be equipped with the fittings necessary to secure it by means of the belt restraint systems provided. Wheelchairs that are used to carry passengers in vehicles must conform with ISO 7176-19.

Proper use also includes strictly adhering to the information given in these Operating Instructions.



### WARNING

If the access ramp is used for any other purpose than that described above, this may result in dangerous situations for persons or material damage being caused.

Therefore:

- Only use the access ramp for the purpose for which it was intended.
- Always adhere to information given in these Operating Instructions.
- Do not use the access ramp for any other use, particularly those given in Section 1.2, page 10. These are deemed to be improper use.

## 1.2 Improper Use

Any use other than that described in Section 1.1, page 9, is deemed to be improper use.

The access ramp is deemed to be improperly used if for example:

- it is used to transport goods,
- it is used when in a faulty state or with safety-relevant malfunctions,
- it is used to transport wheelchairs that cannot be secured by means of the belt restraint systems provided, or
- it is used by incompetent persons.

## 1.3 User Requirements

The access ramp must only be handled by persons who:

- have been instructed in how to operate the access ramp,
- have read and understood these Operating Instructions,
- have proven their ability to operate the access ramp to the vehicle's owner,
- have been expressly assigned by the vehicle's owner to operate the access ramp,
- have the technical knowledge to operate the wheelchair's brakes and switch the motors of electrically driven wheelchairs ON and OFF and
- are in a position to adapt themselves to the particular behaviour and needs of disabled persons.

Transportation, installation, commissioning, maintenance, repair, fault finding and disposal of the access ramp and the vehicle itself must only be carried out by persons with the corresponding technical training and experience.

## 1.4 Product Monitoring

Please contact AMF-Brunns GmbH & Co. KG immediately if faults or problems are encountered when operating your access ramp or if accidents or "near-misses" occur.

AMF-Brunns will effect a solution to the problem with your help and the knowledge gained will flow into future projects.



### NOTE

Guarantee work on the access ramp must only be carried out with the prior agreement of AMF-Brunns GmbH & Co. KG.

The costs of such work will not be accepted by AMF-Brunns without prior agreement.

## 1.5 Danger Zone

The danger zone is the area in which the ramp moves at the rear of the vehicle when being deployed and the area in which the ramp moves inside the vehicle when being stowed. Persons within this area can suffer injuries through movements of the ramp and the person operating the ramp is at risk of being crushed.



### CAUTION

Risk of injury and material damage when deploying and stowing the ramp.

When deploying or stowing the ramp there is a risk of injury to the feet and legs of persons that are present at the rear of or inside the vehicle. The person operating the access ramp is at risk of being crushed. The ramp can be damaged.

Therefore:

- Make certain that there are no persons present within the danger zone when operating the ramp.
- Use the grips and straps provided to operate the access ramp.
- Keep a firm hold of the ramp until it is in its final position when deploying or stowing it.
- Deploy and stow the ramp slowly.

## 1.6 Safety Devices

### Electrically-Operated Belts

Electrically operated belts, with which the wheelchair is secured when the vehicle is in motion, are attached to the front area of the vehicle's floor. These electrically-operated belts can only be pulled out when the ramp has been fully deployed and the indicator lamp in the rocker switch is lit (refer to Section 2.1.3, page 18, and Section 2.2, page 22). The electrically-operated belts retract automatically when the rocker switch is in either position. Before the wheelchair can be pushed or driven up the ramp, the electrically-operated belts must be attached to the wheelchair and the rocker switch must be operated such that the indicator lamp goes out. This will prevent the wheelchair from rolling back out of control.

## 1.7 Vehicle Characteristics

The driving characteristics can vary slightly from those of the basic vehicle because of the conversion. You should therefore familiarise yourself with the vehicle during your first trips.

In addition to the increase in curb weight, the ground clearance can also differ from that of the basic vehicle. Details regarding the curb weight can be found in the vehicle registration documents.

The fuel tank capacity and range indicator of the vehicle can differ from that of the basic vehicle. Make use of the trip meter in order to estimate contents of the tank when driving.

The function of the rear parking assistant can be restricted.

Also observe the relevant instructions in Chapter 5, "Operation", page 25.

Before purchasing optional equipment and accessories, we recommend that these are checked for compatibility with the conversion.

Depending upon the vehicle, use of the ISO-Fix connectors on the AMF-Bruns Tip & Fold seats can be restricted.

## 1.8 Safety and Accident Prevention Regulations

Adhere to the following notes in order to prevent personal injuries and material damage. For commercial use, also adhere also to the relevant safety and accident prevention regulations laid down by the trade associations.

- The access ramp must only be operated if all safety devices are correctly fitted (see Section 1.6, page 12). Such devices may only be removed in order to enable maintenance and repair work to be carried out. All safety devices must be replaced immediately after such work has been completed. Otherwise, there is a high risk of injury.
- The access ramp must only be used for the purpose for which it is intended, otherwise dangerous situations, with resultant injuries, may occur (Proper use: see Section 1.1, page 9).
- The owner is responsible for ensuring that proper use is adhered to, in particular that the access ramp is only operated by authorised persons.
- If the access ramp is used commercially or as a public utility, the owner must ensure that operating personnel are familiar with the operation of the access ramp under all operating conditions by giving training and familiarisation courses.
- Proper use of the access ramp also includes adherence to the specified maintenance and repair work, in particular strict adherence to the maintenance intervals. If such work is not carried out, trouble-free operation cannot be guaranteed. There is a risk of personal injury and material damage being caused. We recommend that maintenance records are kept.

- If the access ramp is used commercially or as a public utility, it must be inspected by a technical expert at intervals of not more than 1 year after commissioning. During inspection, faults affecting the safety should be systematically identified and remedial action taken (see Chapter 10, “Inspection Log”, page 59).
- The access ramp must not be operated in a faulty condition, as serious injuries may be caused by this. If faults occur, do not use the access ramp until repairs have been effected.
- Before carrying out maintenance or repair work, this includes cleaning work, switch the vehicle's engine OFF and prevent the vehicle from rolling away by applying the handbrake. Make certain that no other person can start the vehicle (e.g. by removing the ignition key). If this is not done, there is a risk of injury.
- Use only original spare parts and accessories that have been approved of by the manufacturer. If non-original or non-approved spare parts are used, liability for the consequences will be rendered null and void.

## 2 Description

Persons who are wheelchair-bound can be loaded into or disembarked from a vehicle via the access ramp.

The main components of the access ramp are:

- the floor section,
- the ramp,
- the electrically-operated belts and retractors for securing the wheelchair.

The aim of this chapter is to illustrate the construction and function of the access ramp. For this purpose, the individual assemblies and components are described in the sections that follow.



For information regarding the basic functions of the base vehicle, refer to the vehicle user manual.

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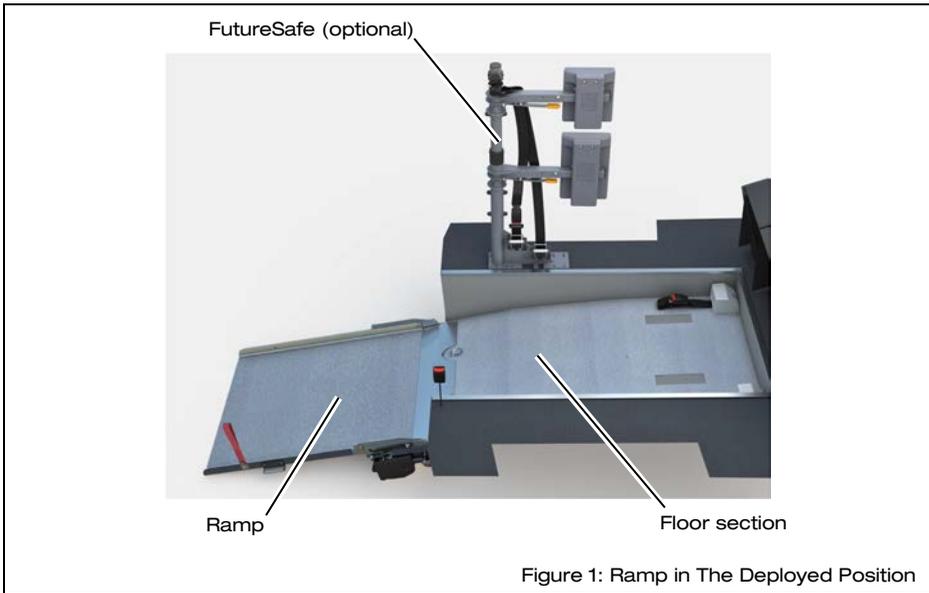
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## 2.1 Layout and Function



### 2.1.1 Floor section

The floor section (see Figure 1) offers sufficient space for a passenger in the wheelchair. The surface of the floor section is lower than the floor of the vehicle. This ensures that the passenger has sufficient headroom.

### 2.1.2 Ramp

The Easy ramp is used in two positions.

In the completely deployed position, the ramp provides a slope, via which the wheelchair can be easily pushed or driven into the vehicle (see Figure 1).

The rear doors / tailgate can be closed when the access ramp is in the vertical position. The ramp leaves sufficient space for a passenger or an empty wheelchair. In this position, the frame of the ramp fills the gap in the vehicle's rear bumper (see Figure 2, page 17).

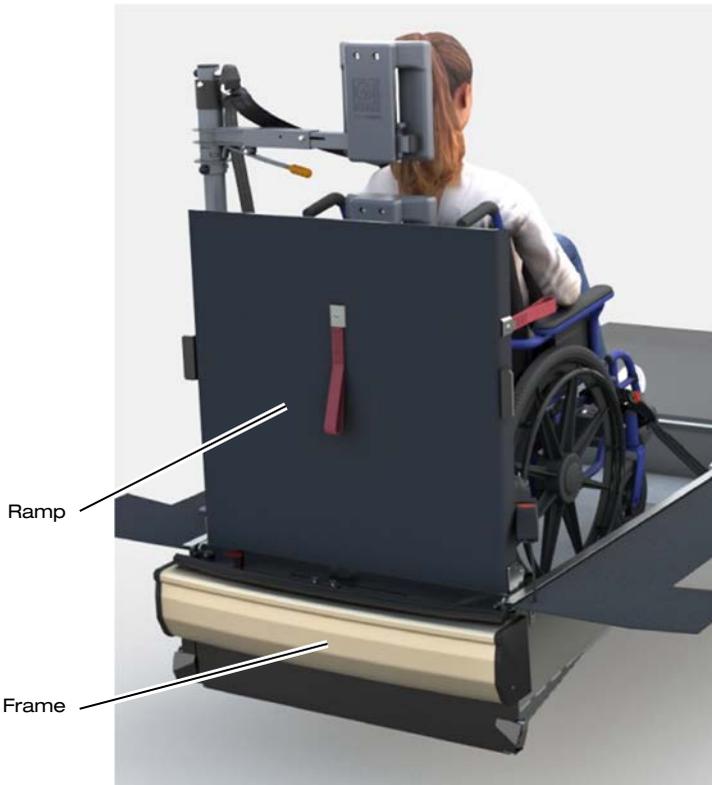


Figure 2: Easy Ramp in the Vertical Position

A third position is available for the EasyFlex ramp. The ramp can be folded down into the vehicle, so that it is at the same level as the floor of the vehicle (see Figure 3, page 18).

The floor section is almost completely covered. This creates a level luggage compartment floor. The vehicle can be used to transport goods and other items in the normal way up to a weight of 100 kg without difficulty. Heavy loads must be evenly distributed over the surface of the ramp. The wheelchair space can then no longer be used.



Figure 3: Fully Stowed EasyFlex Ramp

### 2.1.3 Belts and belt fastenings for the wheelchair

Normally, two electrically-operated belts, for securing a wheelchair, are fitted to the front area of the floor section (see Figure 4, page 19). The electrically-operated belts can be pulled out when the ramp is fully deployed and the indicator lamp in the rocker switch is lit.

The type and exact position of the electrically-operated belts shown in the Figures are examples and may differ in the vehicle on hand.

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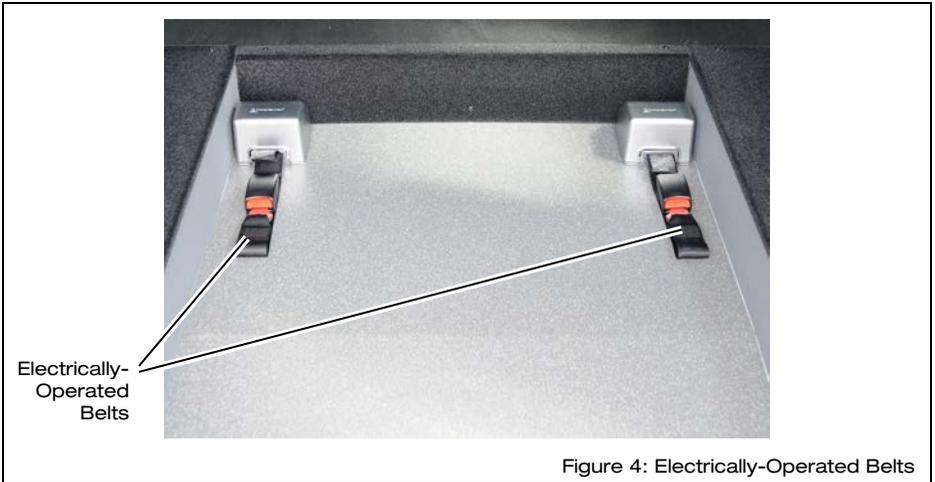


Figure 4: Electrically-Operated Belts

Two fittings, to which the retractor belts can be attached, are provided on the rear area of the floor section (see Figure 5). The rear end of the wheelchair is secured by the retractors.

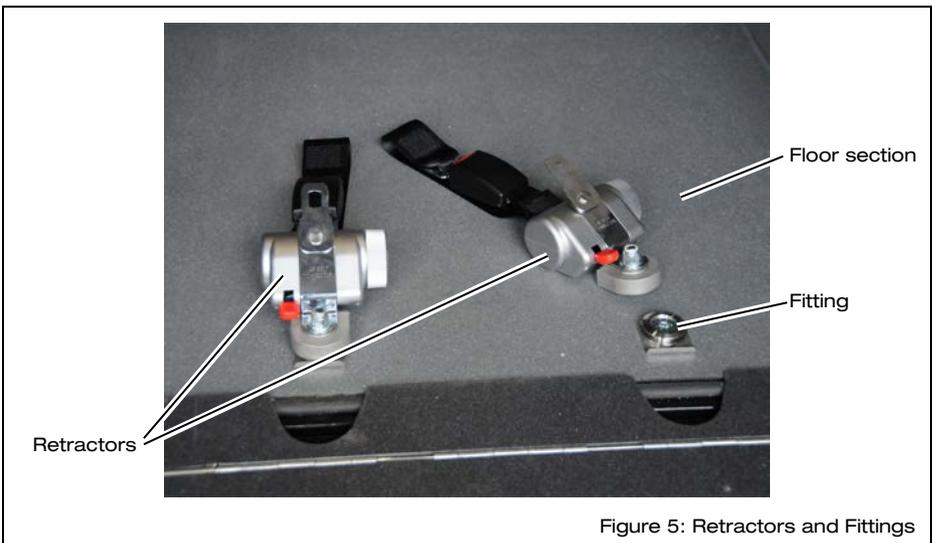


Figure 5: Retractors and Fittings



For information on the description of the retractors, refer to their operating instructions.

## 2.1.4 Belts and belt fastenings for the passenger

The vehicle's own lap belt, for securing the passenger in the wheelchair, is located in the rear area to the left and right of the floor section (see Figure 6). This comprises a belt reel with a black belt (standard position: on the left) and a belt lock (standard position: on the right). The belt components can be fastened to the vehicle in combination with other accessories (e.g. additional seats, FutureSafe).

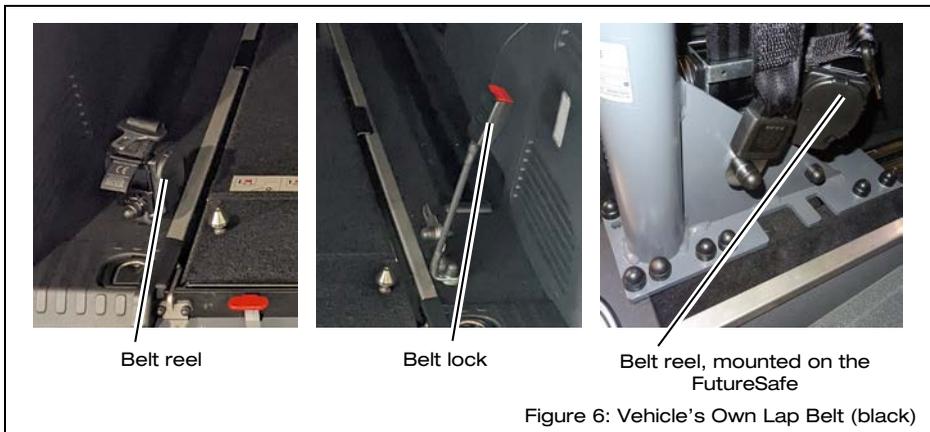


Figure 6: Vehicle's Own Lap Belt (black)

A vehicle-independent red lap belt in two different versions can also be used as an option (see Figure 7, page 21).

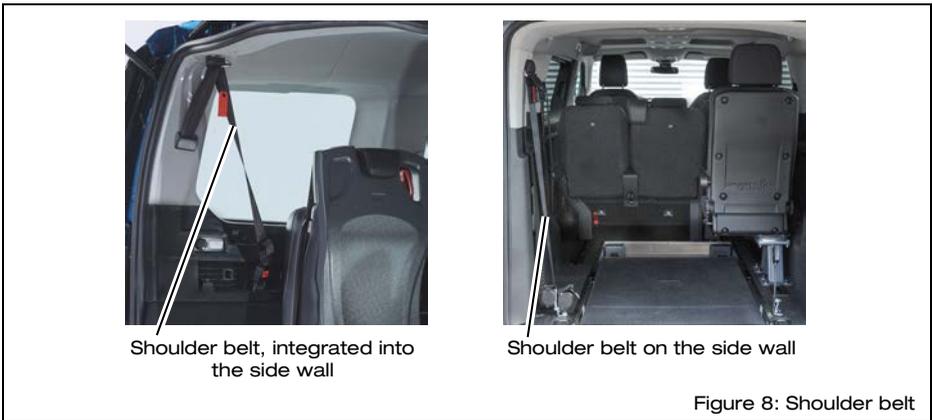
The replaceable red lap belt is designed to be attached to the retractors.

For a wheelchair with adapters, the red lap belt is integrated and thus firmly connected to the wheelchair.

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In addition, a shoulder belt to secure the passenger is fitted to a side wall of the vehicle at the rear (see Figure 8) or to the optional FutureSafe.

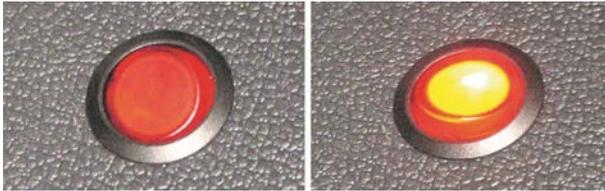


The shoulder belt is attached to the belt latch on a retractor or to the belt latch on a red lap belt to secure the passenger.



For a further description of the safety systems, refer to their operating instructions.

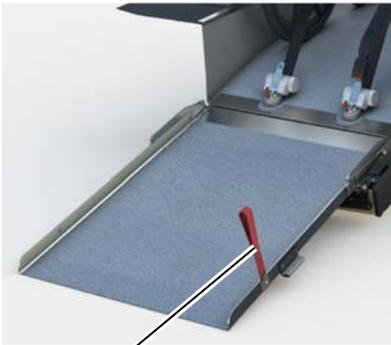
## 2.2 Operating Controls



OFF

ON

Figure 9: Rocker switch



Side operating strap



Centre operating strap  
(only EasyFlex)

Figure 10: Operating Straps



"Ramp" operating lever

Figure 11: Operating Lever

Designation	Position	Function
Rocker switch	Normally fitted to the rear, right-hand side cladding in the interior.	Is operated to pull the electrically-operated belts when the ramp is deployed. The indicator lamp in the rocker switch lights up when operated.
Side operating strap	On the side of the ramp (left- or right-hand side depending upon country in which used).	Is used to hold the ramp when deploying and stowing it.
Centre operating strap	Only for an EasyFlex ramp: At the rear, centre of the ramp.	Only for an EasyFlex ramp: Is used to hold the ramp when fully stowing it in the vehicle or deploying it from the stowed position.
Operating lever	Rear, left-hand side above the frame of the ramp.	Easy ramp and EasyFlex ramp: Must be pushed down to deploy the ramp from the folded up position. Only for an EasyFlex ramp: Must be pulled up to fully stow the ramp from the folded up position.

## 2.3 Technical Data

Designation	Easy ramp
	EasyFlex ramp
Maximum load (wheelchair use)	350 kg
Maximum load (EasyFlex ramp stowed position, luggage compartment)	100 kg (if evenly distributed)

## 3 Transportation

Transportation of the access ramp is carried out by the manufacturer or by trained, experienced personnel.

## 4 Installation / Commissioning

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The access ramp must be installed in accordance with the AMF-Bruns Installation Instructions applicable to the vehicle in question.

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### **DANGER**

Danger through incorrect installation work.

A number of risks of personal injury and material damage can be caused if the access ramp is incorrectly installed in the vehicle.

Such risks of danger cannot only occur during installation but also as a result of installation not being carried out correctly.

Therefore:

- The access ramp must only be installed by specialist personnel, who have been trained for this job by the manufacturer. This also applies to the electrical connections.
  - The respective vehicle manufacturer's body fitting guidelines must be adhered to.
  - A technical expert must be called in to inspect the access ramp for correct installation and the effectiveness of the safety devices.
  - The technical expert must confirm the fact that operational safety of the access ramp has been established by making a corresponding entry in the inspection log book (see Chapter 10, page 59).
  - The access ramp must not be used until this has been done.
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## 5 Operation

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If optional extras are fitted, also read the Operating Instructions provided for them.

Optional extras can be, amongst others:

- seating solutions,
  - occupant and wheelchair restraint systems and
  - the EasyPull winch and front restraint system.
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For information regarding the basic functions of the base vehicle, refer to the vehicle user manual.

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### 5.1 Safety Regulations for Operation

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The safety information given in the Safety chapter must have been read prior to operation (see Chapter 1, page 8).

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#### **WARNING**

Risk of injury and material damage if the access ramp is operated in a faulty condition.

Therefore:

- Always carry out inspections/checks in accordance with the maintenance schedule before use (see Chapter 6, page 48).
  - For communal or commercial use: Have the access ramp inspected at intervals of not more than one year by a technical expert.
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## WARNING

Risk of injury and material damage if the access ramp is operated by unauthorised persons.

Dangerous operating conditions may be caused if the access ramp is operated by unauthorised persons.

Therefore:

- The access ramp must only be operated by persons who are familiar with operating the access ramp.
  - The access ramp must never be operated by the passenger.
  - Lock the vehicle's doors when the access ramp is not in use.
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## WARNING

Risk of injury if safety devices are removed or are defective.

If safety devices are modified, bypassed or removed, they will no longer fulfil their function.

Therefore:

- Never modify, bypass or remove safety devices.
  - Always make certain that safety devices are refitted if they have been removed (e.g. for maintenance or repair purposes).
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## WARNING

Danger through road traffic collisions.

A number of risks are involved for the passenger operator when using the access ramp on public highways.

Therefore:

- When the parking the vehicle ensure that other road traffic is affected as little as possible.
  - Park the vehicle such that as little danger as possible is presented to passenger and operator by other road traffic.
  - Switch the vehicle's engine OFF and apply the handbrake before operating the access ramp.
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### CAUTION

Risk of crushing or falling because of insufficient space to operate the access ramp safely or through unsuitable ground conditions.

If there is insufficient space to leave or to get onto the access ramp, there is a risk of being injured by the access ramp or other objects (e. g. walls, posts or poles). If the ramp is deployed onto uneven or soft ground or if the full width of the ramp is not in contact with the ground, there is a risk of injury through the ramp subsiding when subject to load.

This risk applies to both the passengers and accompanying person.

Therefore:

- When parking the vehicle, make certain that there is sufficient space behind the access ramp.
- Only use the deployed ramp when its full width is in contact with a firm surface.



### CAUTION

Risk of personal injury and material damage.

The warning characteristic of the rear parking assistant is changed by the installation of the access ramp. The parking assistant then warns at a reduced distance to an obstacle than normal.

Therefore:

- Take the changed warning characteristic into consideration when reversing.



### WARNING

Risk of injury through getting caught on the side operating strap.

When the ramp is deployed, the side operating strap points upwards. When stepping onto or off the ramp, the operator can for example get a foot caught in the operating strap causing them to fall.

Therefore:

- Only step onto or leave the ramp in a fore and aft direction.
- Keep an eye on the side operating strap when standing on the ramp.



## WARNING

General risk of injury and material damage through loose items in the interior of the vehicle when travelling.

Loose items in the interior of the vehicle can potentially transform into projectiles when abrupt manoeuvres are carried out or if an accident occurs. These can cause injury to the passengers or damage the interior of the vehicle. Safety-relevant operating mechanisms (e.g. the unlocking levers on the retractors) can also be inadvertently operated by falling or flying loose items

Therefore:

- Stow all small and lightweight items in the vehicle storage compartments before starting a journey.
  - Use lashing straps to secure larger or heavier objects to the lashing eyes provided in the vehicle for this purpose before starting a journey.
  - Make sure that passengers are not holding or carrying any loose items during a journey.
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## 5.2 Deploying the Ramp

- ⇒ Switch the vehicle's engine OFF.
  - ⇒ Remove the ignition key.
  - ⇒ Apply the vehicle's handbrake.
  - ⇒ Open the rear doors / tailgate
- 



## CAUTION

Risk of crushing when pulling the ramp from the interior to the vertical position.

When pulling the ramp to the vertical position, there is a risk of being crushed between the ramp and the frame (rear bumper).

Therefore:

- Use the operating straps.
  - Do not reach into the gap between the ramp and frame.
  - Do not reach into the gap between the ramp and floor section.
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- ⇒ For an EasyFlex ramp: Use the centre operating strap to pull the ramp to the vertical position, until it audibly engages (see Figure 12).



- ⇒ Check that the ramp is securely engaged in the vertical position by gently shaking it.
- ⇒ Keep a firm hold on the ramp.

⇒ Push the operating lever downwards (see Figure 13).



Figure 13: Unlocking the Frame



## CAUTION

Risk of injury and risk of material damage when deploying the ramp.

There is a risk of injuries to the legs and feet if the ramp is allowed to fall to the ground out of control. The ramp can be damaged.

Therefore:

- Use the operating straps.
- Keep a firm hold of the ramp until it is fully in contact with the ground.
- Allow the ramp to deploy slowly.

- ⇒ Fold the ramp out with the aid of the operating strap until it makes contact with the ground (see Figure 14).

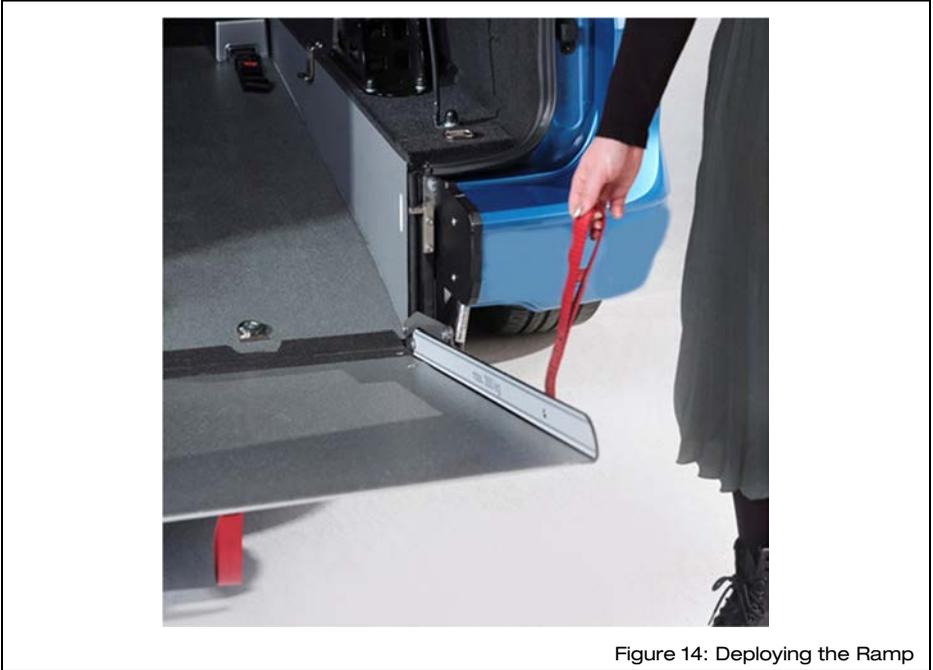


Figure 14: Deploying the Ramp

## 5.3 Embarking the Passenger



### WARNING

General risk of injury through incorrect use of the wheelchair safety systems.

If a road traffic accident occurs, there is a risk of severe injury for all occupants in the vehicle if the safety systems for securing the wheelchair are used incorrectly.

Therefore:

- Only tie the wheelchair down in the vehicle using the fastening points provided for this purpose on the wheelchair and in the vehicle. Use the restraining systems foreseen for this purpose.
- Do not convey if the tie-down systems are not compatible with the fastening points on the wheelchair or in the vehicle.
- Do not use the safety systems for wheelchairs for any other purpose (e.g. for securing loads).
- When the wheelchair is in the vehicle, it must always face in the direction of travel.
- Only use the electrically-operated belts to fasten the front of a wheelchair.
- Always use the safety systems, even for short journeys.

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⇒ Deploy the ramp (see Section 5.2, page 28).

For vehicles with rear seats that extend beyond the front area of the floor section:

- ⇒ Fold the rear seats up if necessary (see vehicle's operating manual).
- ⇒ Secure the seats in the folded position using the original retainers (e.g. fold-out supports).
- ⇒ With rear seat supports in the floor section:  
Fold the seat supports down or remove them, so that the floor section is level.

For all vehicles:

- ⇒ Lock the optional Tip & Fold seats in their stowed position if necessary.
- ⇒ Swivel the optional FutureSafe head and back supports out of the vehicle.



Refer to the relevant Operating Instructions for information regarding operation of the retractors, FutureSafe and optional seats.

- ⇒ Accompany the wheelchair to a position in front of the deployed ramp.
- ⇒ Apply the wheelchair parking brake.
- ⇒ Operate the rocker switch such that the indicator lamp in the rocker switch lights up (see Figure 9, page 22).
- ⇒ Pull both electrically-operated belts out to the wheelchair.
- ⇒ Attach both electrically-operated belts to the front wheelchair (see Figure 15 and Figure 16, page 34).



Figure 15: Attaching the Electrically-Operated Belts to the Wheelchair



Figure 16: Electrically-Operated Belts Attached to the Wheelchair

- ⇒ Operate the rocker switch such that the indicator lamp in the rocker switch goes out.



## WARNING

Risk of injury through the wheelchair rolling backwards.

The floor section and the ramp form a slope via which the wheelchair can roll back out of control. The passenger in the wheelchair can be severely injured. Material damage can be caused.

Therefore:

- Attach the electrically-operated belts to the wheelchair when it is standing on the ground behind the ramp with the parking brake applied.
- Operate the rocker switch such that the indicator lamp in the rocker switch goes out.
- Push or drive the wheelchair up the ramp only when this has been done.



## WARNING

Risk of injury if the electrically-operated belts loosen when the vehicle is in motion.

If the electrically-operated belts are unevenly tensioned, they can become loose when the vehicle is in motion. There is a risk of the passenger in the wheelchair and of the other occupants in the vehicle being injured.

Therefore:

- Push the wheelchair forwards, into the centre of the vehicle.
- Make sure that the electrically-operated belts leave the belt reels at the same angle as one another.
- If this is not the case, re-position the wheelchair.
- Before starting a journey, make sure that all wheelchair fastening belts are taut.

- 
- ⇒ Release the wheelchair's parking brake.
  - ⇒ Push or drive the wheelchair into the centre of the vehicle such that that the electrically-operated belts are pulled out of the belt reels at the same angle.
  - ⇒ Pull the wheelchair sharply to make sure that the electrically-operated belts have no slack.
  - ⇒ Switch the motor of an electrically-driven wheelchair OFF.
  - ⇒ Attach two retractors to fasten the rear of the wheelchair. Use the fittings in the rear area of the floor section to do this (see Figure 17, page 36).
  - ⇒ Check that the retractors are firmly attached by pulling them sharply.
  - ⇒ Attach the belts from both retractors to the wheelchair.
  - ⇒ Tension both retractors evenly by turning the side tensioners (see Figure 17, page 36).

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Figure 17: Tensioning the Retractors

- ⇒ Apply the wheelchair parking brake.
- ⇒ Secure the passenger in the wheelchair using the personal safety systems available (see Section 5.4, page 38).



## CAUTION

Risk of crushing when lifting the ramp to the vertical position.

When folding the ramp up, there is a risk of crushing fingers and hands between the frame of the ramp (bumper) and surrounding parts of the vehicle.

Therefore:

- Use the operating straps.
  - Do not reach between the frame and surrounding parts of the vehicle.
- 
- ⇒ Lift the ramp up by using the side operating strap (see Figure 18, page 37).
  - ⇒ Fold the ramp up until it audibly engages in the vertical position.

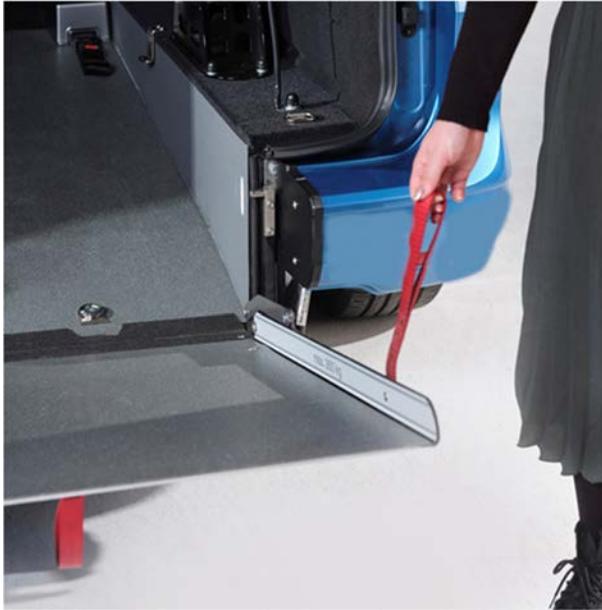


Figure 18: Folding the Ramp Up

⇒ Close the tailgate / rear doors.

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## 5.4 Securing the Passenger



### WARNING

General risk of injury through incorrect use of the personal safety systems.

If a road traffic accident occurs, there is a risk of severe injury for all occupants in the vehicle if the safety systems for securing the passenger in the wheelchair are used incorrectly.

Therefore:

- Only ever secure the person in the wheelchair using the safety systems provided for this purpose.
- Always secure the person in the wheelchair using all of the safety systems foreseen for this purpose (e.g. lap belt and shoulder belt).
- Do not use the personal safety systems for any other purpose (e.g. for securing loads).
- Always use the safety systems, even for short journeys.
- Make sure that all belts securing the passenger fit snugly.



### NOTE

The personal safety systems are not required when transporting an empty wheelchair.



Refer to the relevant Operating Instructions for information regarding operation of the retractors, FutureSafe and personal safety systems.

Lap belts are available in the following versions (see also Section 2.1.4, page 20):

- Vehicle's own black lap belt,
- exchangeable, red lap belt and
- red lap belt on adapters fitted to the wheelchair.

Only one lap belt version is used for the passenger, even though several versions are available.

- ⇒ Make sure that the wheelchair is standing in its final position, is secured in this position and that the parking brake is applied (see Section 5.3, page 32).

#### **5.4.1 Fastening the belts with a vehicle's own black lap belt**

- ⇒ Pass the vehicle's own black lap belt from the belt reel, directly over the passenger's pelvis, to the other side of the wheelchair (see Figure 19, page 40).

Do not pass the black lap belt over the armrests of the wheelchair.

- ⇒ Insert the belt latch of the black lap belt into its belt lock.
- ⇒ Pass the shoulder belt with belt lock diagonally over the upper body of the passenger, past the pelvis and wheelchair seat to the area behind the wheelchair.

Do not pass the shoulder belt over the armrests or wheels of the wheelchair.

- ⇒ Connect the belt lock on the shoulder belt to the belt latch on the retractor beneath (see Figure 19, page 40).



Figure 19: Fastening the Vehicle's Own Black Lap Belt and Shoulder Belt

## 5.4.2 Fastening the belts with a vehicle-independent red lap belt

- ⇒ Connect the outer belt locks of an exchangeable red lap belt to the belt latches on the retractors (see Figure 21, page 42).

This step is not required if the wheelchair is fitted with adapters and lap belt. This lap belt version can also be worn by a wheelchair passenger when not in a vehicle.

- ⇒ Pass both parts of the red lap belt between the backrest and armrests and around the passenger.

Do not pass the lap belt over the armrests or wheels of the wheelchair.

- ⇒ Adjust the length of the red lap belt at the centre lock so that the belt fits snugly over the passenger's pelvis but is not too tight.

- ⇒ Fasten the centre lock of the red lap belt over the passenger's lap (see Figure 20).

### **Fastening the shoulder belt for a wheelchair with adapters and integrated red lap belt**

- ⇒ Pass the shoulder belt with the buckle diagonally across the passenger's upper body.
- ⇒ After the red wheelchair lap belt has been fastened, fasten the shoulder belt lock to the belt loop next to the centre buckle on the lap belt (see Figure 20).



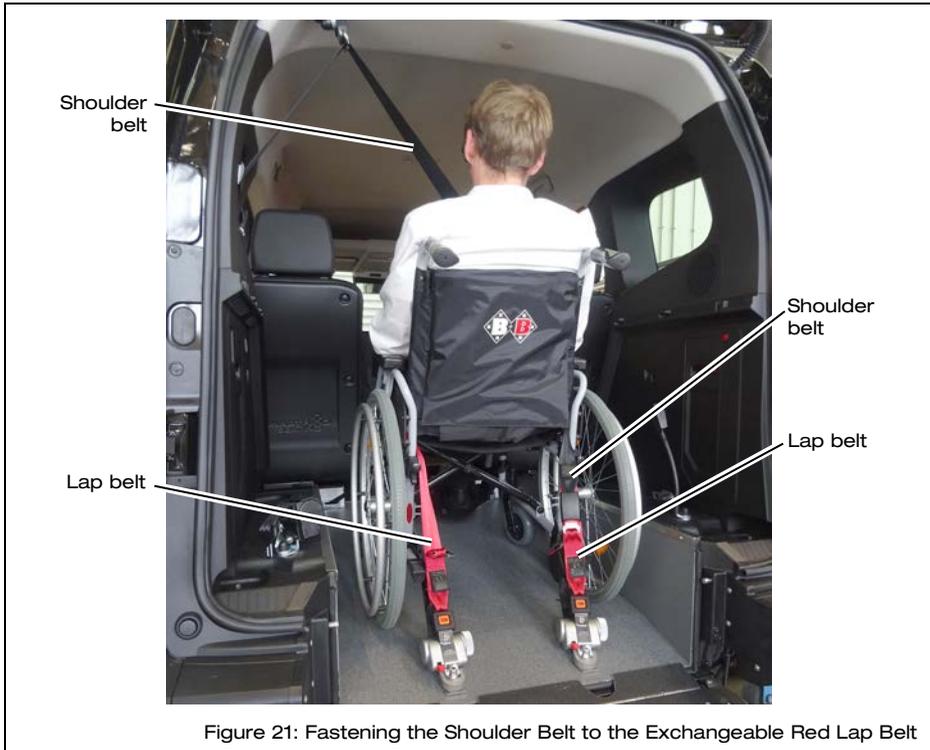
### **Fastening the shoulder belt to an exchangeable red lap belt**

- ⇒ Pass the shoulder belt with belt lock diagonally over the upper body of the passenger, past the pelvis and wheelchair seat to the area behind the wheelchair.

Do not pass the shoulder belt over the armrests or wheels of the wheelchair.

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- ⇒ Fasten the shoulder belt lock to the belt latch on the lap belt beneath (see Figure 21).



### 5.4.3 Further steps for all belt versions

- ⇒ Once again check that all of the belt locks that have been used are correctly engaged and that the belts fit snugly around the passenger without any loose.
- ⇒ Additionally secure the passenger and wheelchair with the optional FutureSafe head and backrest if available.

## 5.5 Disembarking a Passenger

- ⇒ Deploy the ramp (see Section 5.2, page 28).
- ⇒ Swivel the FutureSafe head and backrest (optional) out of the vehicle.



Refer to the relevant Operating Instructions for information regarding operation of the retractors, FutureSafe and personal safety systems.

- ⇒ Release the lap belt and the shoulder belt with which the passenger is secured.
- ⇒ Release the retractor belt reels.
- ⇒ Detach the retractors from the wheelchair.
- ⇒ Detach the retractors from the fittings (see Figure 5, page 19) and stow the retractors in the pocket provided for this purpose.
- ⇒ Switch the motor of an electrically driven wheelchair ON.
- ⇒ Release the wheelchair's parking brake.
- ⇒ Take up a position behind the wheelchair so that you can stop the wheelchair safely if it rolls backwards.



### WARNING

Risk of injury through a wheelchair rolling backwards out of control.

The floor section and the ramp form a slope via which the wheelchair can roll down out of control. The passenger in the wheelchair can be severely injured. Material damage can be caused.

Therefore:

- Stand behind the wheelchair to prevent it from rolling backwards.
  - Only then operate the rocker switch such that the indicator lamp in the rocker switch lights up.
- 
- ⇒ Operate the rocker switch such that the indicator lamp in the rocker switch lights up (see Figure 9, page 22).
  - ⇒ Accompany the passenger out of the vehicle.
  - ⇒ Apply the wheelchair parking brake.

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- ⇒ Detach the electrically-operated belts from the wheelchair.
  - ⇒ Allow the electrically-operated belts to retract.
  - ⇒ Operate the rocker switch such that the indicator lamp in the rocker switch goes out.



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## CAUTION

Risk of crushing when lifting the ramp to the vertical position.

When folding the ramp up, there is a risk of crushing fingers and hands between the frame of the ramp (bumper) and surrounding parts of the vehicle.

Therefore:

- Use the operating straps.
- Do not reach between the frame and surrounding parts of the vehicle.

- 
- ⇒ Swivel the FutureSafe head and back support (optional) into the vehicle.
  - ⇒ Use the side operating strap to pull the ramp up to the vertical position, until it audibly engages (see Figure 18, page 37).
  - ⇒ Close the tailgate / rear doors.

## 5.6 EasyFlex: Fully Stowing the Ramp

With the access ramp fully stowed and the rear seats in their original position, the vehicle can be used as a standard vehicle (see Figure 22, page 45).

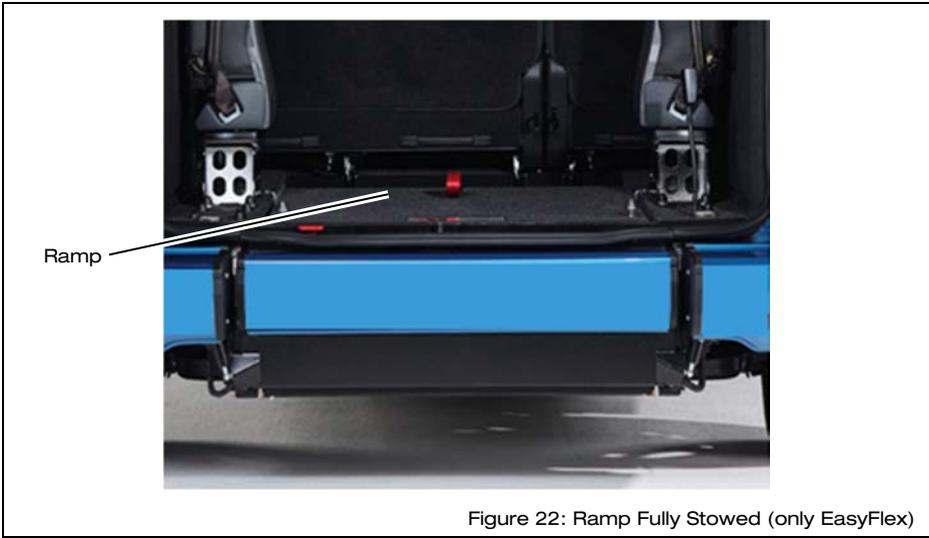


Figure 22: Ramp Fully Stowed (only EasyFlex)

- ⇒ Take hold of the ramp's centre operating strap.
- ⇒ Pull operating lever upwards (see Figure 23).

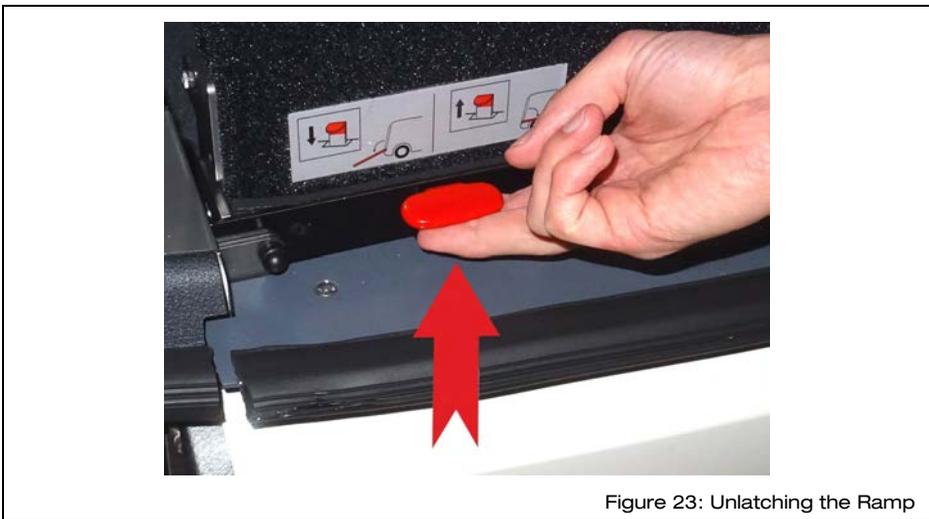


Figure 23: Unlatching the Ramp



## CAUTION

Risk of injury and risk of material damage when stowing the ramp fully in the vehicle.

When folding the ramp to the horizontal position, there is a risk of being crushed between the ramp and the floor section. The ramp can be damaged.

Therefore:

- Keep a firm hold of the ramp until it is fully in contact with the floor section.
- Do not reach into the gap between ramp and floor section.

⇒ Use the centre operating strap to fold the ramp down slowly, until its bearing surfaces rest on the vehicle's floor at the sides of the floor section (see Figure 24).



Figure 24: Stowing the Ramp

The ramp rests on both sides of the floor section and can be used as a normal luggage compartment floor (see Figure 22, page 45).



### ATTENTION

The ramp can suffer damage if it is overloaded.

Therefore:

- Do not stand on the stowed ramp.
- Do not place a load of more than 100 kg on the stowed ramp.
- Evenly distribute the weight of heavy loads over the surface area of the ramp.

---

## 5.7 Vehicle Fuel Gauge

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### NOTE

During installation of the Easy or EasyFlex ramp, the original fuel tank may have been replaced by a special fuel tank from AMF-Brunns or the position of the original fuel tank may have been changed.

A precise indication of the fuel level may no longer be possible.

Therefore:

- If this the case, make use of the trip meter in order to estimate the contents of the tank when driving.



### ATTENTION

If the fuel tank of a diesel-engined vehicle is fully emptied, the fuel system will suck in air.

This can cause damage involving high repair costs.

Therefore:

- Always refuel before the fuel tank is completely empty.
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## 6 Maintenance and Repair



Refer to the manufacturer's Operating Instructions and service documents for information regarding the fundamental maintenance of the basic vehicle.

Deviations from these are described in Section 6.2.3, page 50.

### 6.1 Safety Regulations for Maintenance and Repair



Read the safety information before carrying out maintenance and repair work (see Chapter 1, page 8).



#### **WARNING**

Risk of injury through missing safety devices.

If safety devices are removed, they can no longer fulfil their function.

Therefore:

- Always make certain that safety devices are refitted if they have been removed (e.g. for maintenance or repair purposes).



#### **WARNING**

Risk of injury and material damage if maintenance and repair work is not carried out correctly.

Therefore:

- Only allow specialist personnel to carry out maintenance and repair work.
- If repair work has been carried out on load bearing parts, this must be inspected by a technical expert.



## WARNING

Personal injury and material damage can be caused if spare parts of inferior quality are used.

The manufacturer will accept no liability whatsoever for damage or injury caused by the use of non-original spare parts or spare parts that have not been approved of by the manufacturer.

Therefore:

- Use only original spare parts or spare parts that have been approved of by the manufacturer.

## 6.2 Routine Maintenance Work

The maintenance schedule below lists the maintenance work that must be carried out on the access ramp at regular intervals.

Contact your local dealer or the AMF-Brunns GmbH & Co. KG customer service department for maintenance work that must be carried out by a specialist (see Chapter 12, page 71).

### 6.2.1 Maintenance schedule

Interval	Activity	see
Daily	Functionally test the electrically-operated belts.	Section 6.4, page 50
	Carry out a visual inspection for damage and deficiencies. Initiate repairs if necessary.	
Yearly	For communal or commercial use: Have the access ramp inspected by a technical expert.	Section 6.5, page 51
As required	Clean the access ramp.	

### 6.2.2 Maintenance records

Enter maintenance and repair work that has been carried out into the maintenance record provided for this purpose (see Section 6.6, page 52). This provides a traceable record of maintenance work.

For records of maintenance work over and above this, it is recommended that you keep your own lists.

## 6.2.3 Maintenance work on the basic vehicle

Some maintenance work on the basic vehicle, in the area where the conversion was made, must be carried out differently to that specified by the manufacturer of the basic vehicle.

Contact your local dealer or the AMF-Bruns GmbH & Co. KG customer service department if necessary (see Chapter 12, page 71).

## 6.3 Repair work

Always carry out repair work to the basic vehicle in accordance with the basic vehicle manufacturer's repair instructions.

Some individual work steps can deviate due to the conversion.

Contact your local dealer or the AMF-Bruns GmbH & Co. KG customer service department if necessary (see Chapter 12, page 71).

## 6.4 Functionally Testing the Electrically-Operated Belts

- ⇒ Fold the ramp up to the vertical position, until the latches audibly engage.
- ⇒ Operate the rocker switch several times (see Figure 9, page 22). Observe whether the indicator lamp in the red rocker switch lights up when doing so.



### CAUTION

Risk of injury and risk of material damage when deploying the ramp.

There is a risk of injuries to the legs and feet if the ramp is allowed to fall to the ground out of control. The ramp can be damaged.

Therefore:

- Use the operating straps.
- keep hold of the ramp until it is fully in contact with the ground.
- Allow the ramp to deploy slowly.

- ⇒ Fold the ramp out until it rests on the ground.
- ⇒ Operate the rocker switch such that the indicator lamp in the rocker switch goes out.

- ⇒ Try to pull the electrically-operated belts out.
- ⇒ Operate the rocker switch again such that the indicator lamp lights up.
- ⇒ Try again to pull the electrically-operated belts out.

The indicator lamp in the rocker switch must only light up when the ramp is deployed. The electrically-operated belts must only be able to be pulled out when the ramp is deployed and the indicator lamp in the rocker switch is lit.

If this is not the case:

- ⇒ Do not use the access ramp and have the access ramp's electrical system checked.

## 6.5 Yearly Inspection

The yearly inspection by a technical expert is basically a visual inspection and functional test. It extends to:

- the condition of all components and devices,
- an inspection for modifications that have been made to the access ramp,
- the completeness and effectiveness of protective and safety devices and
- the completeness of the inspection log.



For detailed information regarding the yearly inspection by a technical expert: see Chapter 10, "Inspection Log", page 59.



## 7 Decommissioning and Conservation

Contact your local dealer or the AMF-Bruns GmbH & Co. KG customer service department if you have any questions regarding decommissioning (see Chapter 12, page 71).

## 8 Disposal

When the access ramp and vehicle's useful life has expired, they must only be disposed of by qualified specialists. The manufacturer will accept no liability for damage caused by incorrect disposal.

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## 9 Faults and Troubleshooting

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### **WARNING**

Risk of severe injury and material damage if repair work is carried out incorrectly.

Therefore:

- Only allow specialist personnel to carry out repair work.
- 

If faults occur when operating the access ramp, proceed as described in the following troubleshooting table. Contact your local dealer or the AMF-Bruns GmbH & Co. KG customer service department if faults are encountered which cannot be remedied using the information and measures given in the table (see Chapter 12, page 71).

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For fundamental information regarding faults on the basic vehicle, refer to the vehicle operating instructions.

---

## 9.1 Troubleshooting Table

Fault	Possible Cause	Remedial Measures
The ramp does not deploy or stow correctly.	Foreign objects blocking the latching mechanisms.	Inspect the latching mechanisms and remove foreign objects, clean the latching mechanisms if necessary.
	The latching system is defective.	Check the latching system and replace it, if necessary.
	One or more of the gas-operated struts is defective.	Check the gas-operated struts and replace, if necessary.
	The ramp mechanism is misaligned.	Have the ramp's mechanism adjusted (see Section 9.2, page 56).
The ramp rattles when the vehicle is in motion.	The ramp has excessive play.	Adjust the ramp's play (see Section 9.2, page 56).
The electrically-operated belts cannot be pulled out.	The rocker switch is defective.	Have a new rocker switch fitted.
	The ramp position switch is defective.	Have a new position switch fitted.
	The fuse has blown.	Replace the fuse (in the vicinity of the vehicle's 12 V battery or in the vicinity of the 12 V on-board power distributor, see Chapter 11, page 69).
	The electrically-operated belts are defective.	Have the electrically-operated belts replaced.

## 9.2 Adjusting the Ramp's Play

AMF-Brunns recommend having the ramp's play adjusted by a specialist company.

The ramp's play must be adjusted such that when the ramp is folded up to the vertical position the locks engage properly and the ramp does not rattle when driving. If the ramp latches can only be closed with difficulty, there is too little play. If the ramp is loose when in the vertical position or rattles when driving, there is too much play.

The options for adjusting the ramp's play at both sides are:

- The outer adjuster screws on the frame of the ramp (Easy ramp and EasyFlex ramp, see red arrow in Figure 25).
- The inner adjuster screws on the frame of the ramp (only EasyFlex ramp, see green arrow in Figure 25).
- The threaded cones for locking the ramp (only EasyFlex ramp, see Figure 27, page 58).

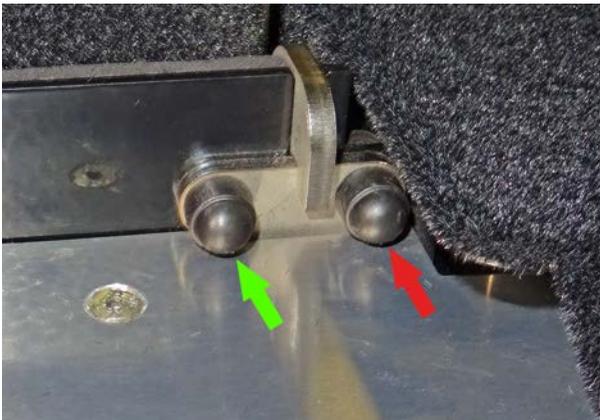


Figure 25: Adjuster Screws (EasyFlex ramp, right-hand side)

In the case of an EasyFlex ramp, first adjust the outer and inner adjuster screws on the frame of the ramp. If the adjustment made by means of the adjuster screws was unsuccessful, then carry out adjustment of the threaded cones.

Adjusting the play by means of the adjuster screws on the frame:

The procedure is the same for all adjuster screws. Figure 26 shows the procedure using the inner, right-hand adjuster screw on an EasyFlex ramp.

- ⇒ Lift the ramp up to the vertical position.
- ⇒ Remove the black protective caps from the adjuster screws.
- ⇒ Loosen the adjuster screw locking nuts (see Figure 26).



Figure 26: Adjusting the Play by Means of the Adjuster Screws

- ⇒ Turn the adjuster screw in to reduce the amount of play.
- Or:
- ⇒ Turn the adjuster screw out to increase the amount of play.
  - ⇒ Tighten the locking nut (tightening torque: 10 Nm)
  - ⇒ Check the ramp's play once again.
  - ⇒ Repeat the procedure if necessary.
  - ⇒ Replace the black protective caps.

Adjusting the play by means of the threaded cones (only EasyFlex ramp):

- ⇒ Fold the access ramp to the fully stowed position inside the vehicle.

- ⇒ Loosen the locking nut directly beneath the threaded cone (see Figure 27, left).  
When doing this, stop the threaded cone from turning using an Allen key.
- ⇒ Loosen the threaded cone clamping screw, if fitted (see Figure 27, right).



Loosening the Locking Nut



Loosening the clamping screw

Figure 27: Adjusting the Threaded Cone (only EasyFlex ramp)

- ⇒ Turn the threaded cone in to reduce the amount of play.
- Or:
- ⇒ Turn the threaded cone out to increase the amount of play.
  - ⇒ Tighten the clamping screw, if fitted.
  - ⇒ Tighten the locking nut (tightening torque: 10 Nm)
  - ⇒ Check the ramp's play once again.
  - ⇒ Repeat the procedure if necessary.

## 10 Inspection Log

Before using the access ramp for the first time, it must be inspected by a technical expert.

If the access ramp is used commercially or as a public utility, this inspection must be repeated at intervals of not more than one year.

During inspection, faults affecting the safety should be systematically identified and remedial action taken.

The items to be inspected are listed in the inspection list (see Section 10.2, page 61).



A technical expert is someone who, by virtue of their technical training and experience, has sufficient knowledge in the field of access ramps for vehicles equipped for disabled persons and is sufficiently familiar with the relevant national occupational health and safety regulations, accident prevention regulations and recognised rules of sound engineering practice (e.g. BG rules, DIN standards, VDE provisions, technical rules and regulations of other member states of the European Union or Turkey or other signatory states of the Agreement of the European Economic Area) that they are able to assess the safe working condition of such access ramps for disabled vehicles.

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## 10.1 Inspection Log Master Data Sheet

### Master Data Sheet for Easy Ramp and EasyFlex Ramp

Chassis Number (VIN) .....

Owner .....

.....

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Year built .....

Commissioned on .....

\* see rating plate

## 10.2 Inspection List

For a routine, yearly inspection by a technical expert (see information on page 59).

Scope of Inspection	Required Inspection Results
Condition of load-bearing parts, e.g. frame components, floor section and reinforcements.	All load-bearing parts are in place, are not deformed and are not damaged by corrosion.
Access ramp fastenings on the vehicle.	All screwed, riveted and bonded connections between the access ramp and the vehicle are in place, undamaged and firmly secured.
Fastenings of the equipment, like e.g. seats from row 2, wheelchair restraint systems, passenger restraint systems and the ramp.	All screwed and riveted connections between the equipment and the access ramp and the vehicle are in place, undamaged, and firmly secured.
Function of the equipment, like e.g. seats from row 2, wheelchair restraint systems, passenger restraint systems, the ramp and the rocker switch.	The equipment functions perfectly. The equipment is in good, safe condition.
Condition of the electrical system.	All electrical cables are undamaged, securely fastened and adequately insulated. All electrical connectors are tight and not corroded.



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## 10.3 Inspection Results

### Results of the inspection prior to commissioning.

To be observed if installed by a third-party company

Installation inspection for .....

Chassis Number (VIN)\* .....

Installation has been carried out correctly!

Place /date .....

.....  
Installation company/Company stamp                      Technical expert/Signature

\* see rating plate





# Inspection Log

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## Inspection result of a yearly inspection

Chassis Number (VIN)\* .....

Sheet No. ....

The access ramp was subject to a routine inspection on .....

No/the following defects were found:

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There are no issues to preclude continued operation.

Place /date .....

.....  
Company/Company stamp

.....  
Signature (technical expert)

### All defects have been remedied.

Confirmation by the owner or his representative with date and signature

.....  
Place/date

.....  
Signature (owner)

\* see rating plate





# Inspection Log

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## Inspection result of a yearly inspection

Chassis Number (VIN)\* .....

Sheet No. ....

The access ramp was subject to a routine inspection on .....

No/the following defects were found:

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There are no issues to preclude continued operation.

Place /date .....

.....  
Company/Company stamp

.....  
Signature (technical expert)

### All defects have been remedied.

Confirmation by the owner or his representative with date and signature

.....  
Place/date

.....  
Signature (owner)

\* see rating plate





# Inspection Log

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## Inspection result of a yearly inspection

Chassis Number (VIN)\* .....

Sheet No. ....

The access ramp was subject to a routine inspection on .....

No/the following defects were found:

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.....

.....

There are no issues to preclude continued operation.

Place /date .....

.....  
Company/Company stamp

.....  
Signature (technical expert)

### All defects have been remedied.

Confirmation by the owner or his representative with date and signature

.....  
Place/date

.....  
Signature (owner)

\* see rating plate

## 11 Electrical Circuit Diagrams

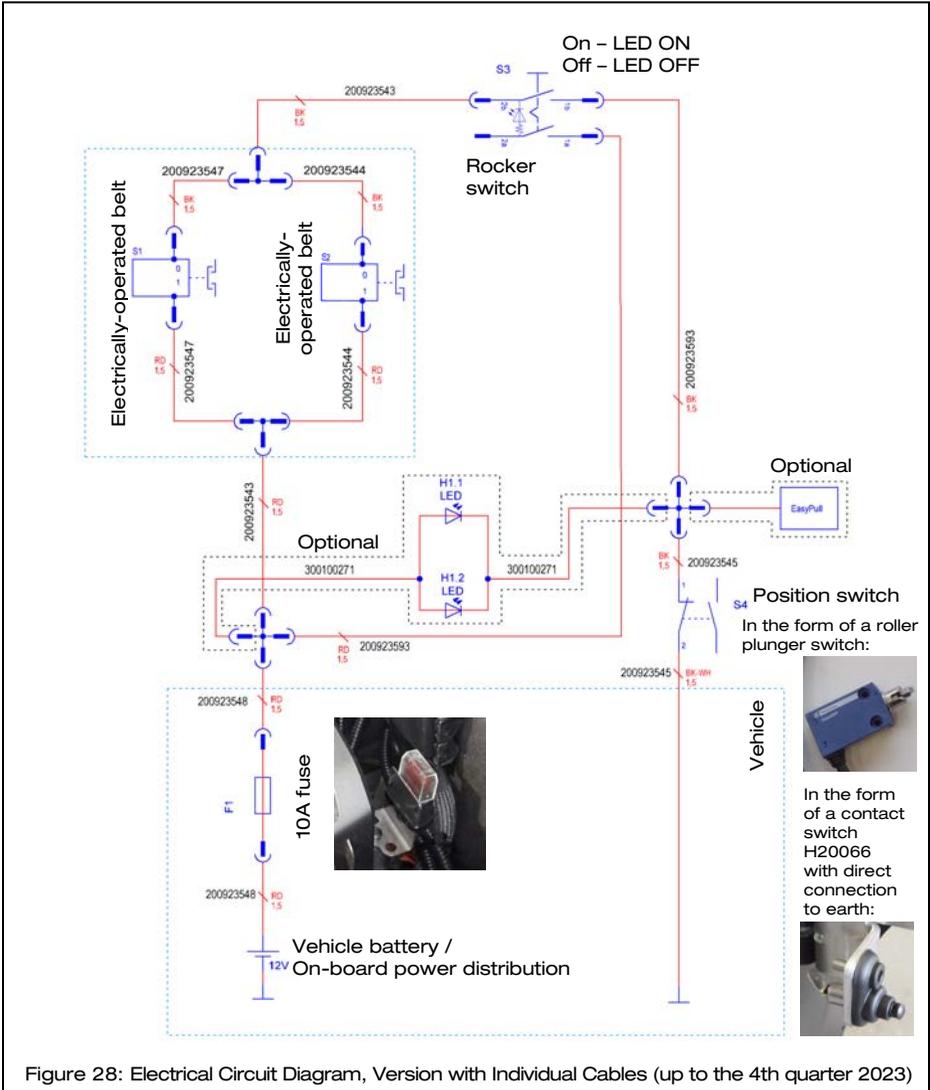


Figure 28: Electrical Circuit Diagram, Version with Individual Cables (up to the 4th quarter 2023)

Colour	Abbreviation (acc. to IEC 60757)
Black	BK
Black-White	BK-WH
Red	RD

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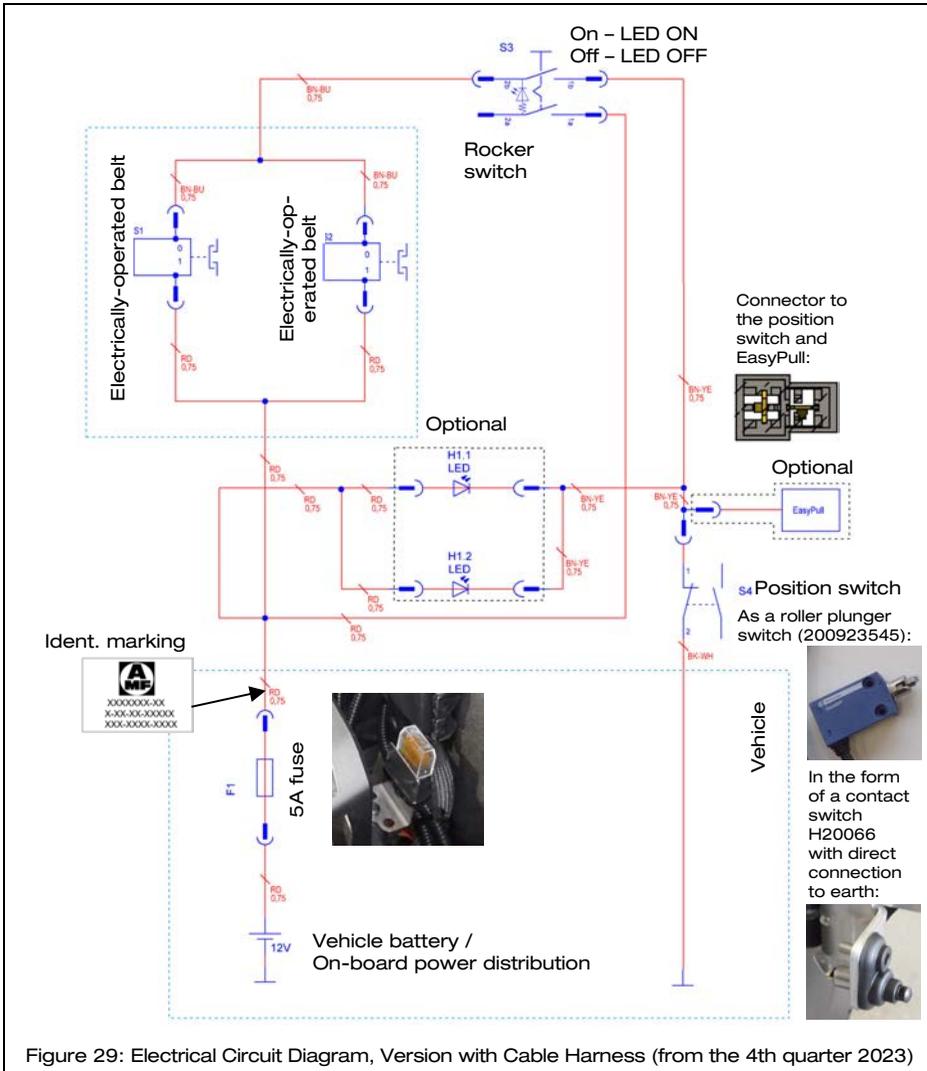


Figure 29: Electrical Circuit Diagram, Version with Cable Harness (from the 4th quarter 2023)

Colour	Abbreviation (acc. to IEC 60757)
Black-White	BK-WH
Red	RD
Brown-Blue	BN-BU
Brown-Yellow	BN-YE

## 12 Customer Service

Contact your local dealer to order spare parts, for maintenance and repair work or if you have any problems or queries.

In addition to this, the AMF-Brunns GmbH & Co. KG customer service is also available to you. Enquiries can be made in either the German or English language.

The address of the customer service is:

AMF-Brunns GmbH & Co. KG

Hauptstraße 101

D – 26689 Apen

Tel.: +49 (0) 44 89 / 72 72-22

Fax: +49 (0) 44 89 / 62 45

[service.hubmatik@amf-bruns.de](mailto:service.hubmatik@amf-bruns.de)

[www.amf-bruns.de](http://www.amf-bruns.de)



### NOTE

Guarantee work on the access ramp must only be carried out with the prior agreement of AMF-Brunns GmbH & Co. KG.

The costs of such work will not be accepted by AMF-Brunns without prior agreement.



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