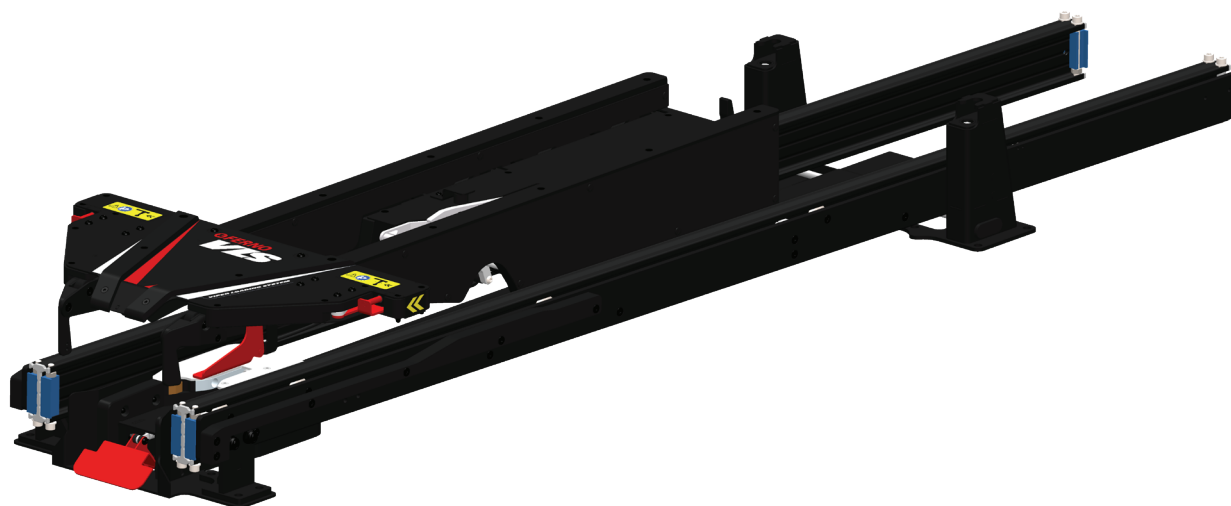





# VIPER

Loading System (VLS)



Read this Manual and Retain  
for Future Reference 

**FERNO®**

**Instructions for Use**

2025-08-04, Rev 2  
Pub. No. VLS-IFU-EN

## Ferno Customer Relations

For ordering assistance or general information:

### CANADA AND THE U.S.A.

Telephone (Toll-free)	1.877.733.0911
Telephone	1.937.382.1451
Fax (Toll-free)	1.888.388.1349
Fax	1.937.382.1191
Internet	<a href="http://www.ferno.com">www.ferno.com</a>

### ALL OTHER LOCATIONS

For assistance or information, please contact your Ferno distributor. If you do not have a Ferno distributor, please contact Ferno Customer Relations:

Ferno-Washington, Inc., 70 Weil Way  
Wilmington, Ohio 45177-9371, U.S.A.

Telephone	Country Code +1.937.382.1451
Fax	Country Code +1.937.382.6569
Internet	<a href="http://www.ferno.com">www.ferno.com</a>

## Disclaimer

This manual contains general instructions for the use, operation and care of this product. The instructions are not all-inclusive. Safe and proper use of this product is solely at the discretion of the user. Safety information is included as a service to the user. All other safety measures taken by the user should be within and under consideration of applicable regulations and local protocol. Training on the proper use of this product must be provided before using this product in an actual situation.

Retain this manual for future reference. Include it with the product in the event of transfer to new users. Additional free copies are available upon request from Customer Relations.

## Proprietary Notice


The information disclosed in this manual is the property of Ferno-Washington, Inc., Wilmington, Ohio, USA. Ferno-Washington, Inc. reserves all intellectual property rights, proprietary design rights, manufacturing rights, reproduction use rights, and sales use rights thereto, and to any article disclosed therein except to the extent those rights are expressly granted to others or where not applicable to vendor proprietary parts.

## Limited Warranty Statement

The products sold by Ferno are covered by a limited warranty, which is printed on all Ferno invoices. The complete terms and conditions of the limited warranty, and the limitations of liability and disclaimers, are also available upon request by calling Ferno at 1.800.733.3766 or 1.937.382.1451.

## Adverse Event Notice


In the event of an adverse event or serious incident related to the use of this device, the end user/operator must report the incident to Ferno-Washington, Inc. at 70 Weil Way, Wilmington, Ohio 45177 USA, 1-877-733-0911, or via email at [tscoordinator@ferno.com](mailto:tscoordinator@ferno.com). If the incident occurred in the European Union, report it to Ferno's Authorized EU Representative and the competent authority of the Member State in which the end user is established.








**USERS' MANUALS**

To request additional free users' manuals, contact Ferno Customer Relations, your Ferno distributor, or [www.ferno.com](http://www.ferno.com).





**DEVICE TRADE NAME (CATALOG NO)**

 Date of Manuf.	 (01) GTIN	
 Serial Number	(11) Date of Manuf.	
	(21) Serial Number	
 <b>MEDIROL s.r.o., Na Strži 126/4, 140 00 Praha 4, Czech Republic</b>		

## Unique Device Identification (UDI)

Ferno complies with the United States Food and Drug Administration's (FDA), MDA & CE Unique Device Identification (UDI) regulation to identify medical devices. The UDI label contains information in human- and machine-readable form, which includes the serial number, date of manufacture and product name.

The label is located on the loading arm as per the photo above.



MEDIROL s.r.o.  
Na Strži 126/4  
140 00 Prague, Czech Republic



Ferno (UK) Ltd.  
Ferno House, Stubbs Beck Lane  
Cleckheaton, West Yorkshire, BD19 4TZ  
+44 (0) 1274 851999



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# 1 - SAFETY INFORMATION

## 1.1 Warning

Warning safety alerts indicate a potentially hazardous situation that, if not avoided, could result in injury or death.



### WARNING

Untrained operators can cause injury or be injured. Permit only trained personnel to operate the loading system.

Improper or inadequate installation can cause injury. The installer must test the loading system setup to meet or exceed all applicable guidelines before using the setup in a vehicle.

Improper installation can cause injury and damage. Install the loading system only as described in this manual.

Failure to use protective equipment can allow injury. Use protective equipment as needed for installation.

Only use installation elements specified by Ferno when securing the fixations to the floor.

Improper installation can cause injury or damage to the product and/or vehicle. Always ensure the fixations are installed in the reinforced sections of the floor.

Do not interfere with the structure of the fixation in any way.

Incorrect wiring installation can cause damage to the loading system. The connection of integrated charging system must be performed as described in this manual by a qualified electrician.

Improperly adjusted locking pins can cause damage and injury. Always make sure the locking pins are working properly before use.

An improper stretcher or transporter can cause injury. Use only a compatible Ferno products designed for use with the loading system.

Modifying the loading system can cause injury and damage. Use the loading system only as designed by Ferno.

Improper operation can cause injury. Operate the loading system only as described in this manual.

An unattended, unlocked loading arm can cause injury or damage. Always ensure the loading arm is securely locked when the loading system is not in use.

Failure to move the stretcher into the loading arm within the loading height range can cause injury or serious damage to the product. Always make sure the yellow arrows on loading arm align with the loading height range on the stretcher before loading.

Disengaging the stretcher from the loading arm before the legs touch the ground can cause injury or serious damage to the product. Only disengage the stretcher when it is safe to release.

Improper maintenance can cause injury. Maintain the product only as described in this manual.

Failure to perform preventative maintenance inspections can cause injury or damage. Have the product inspected regularly by a trained technician.

## 1.2 Notice

Notices emphasize important, but not hazard-related information. Failure to follow Notices could result in product or property damage.













### NOTICE

## 1.3 Bloodborne Disease Notice

To reduce the risk of exposure to blood or other potentially infectious materials when using the product, follow the disinfecting and cleaning instructions in this manual.

## 1.5 Symbol Glossary

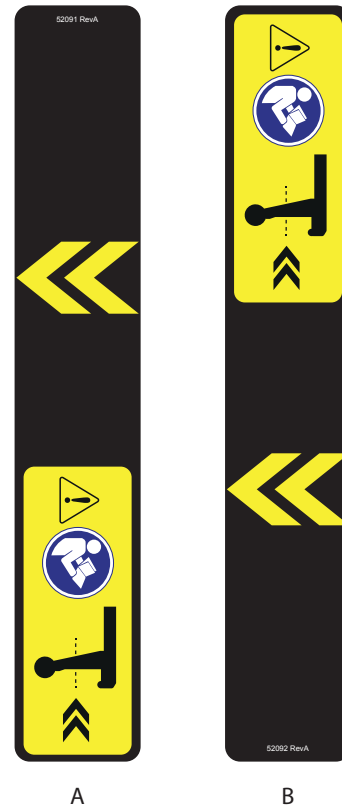
The symbols defined here are used on the product and/or in this users' manual. Ferno uses symbols recognized by the International Standards Organization (ISO), American National Standards Institute (ANSI) and the emergency medical services industry.

Symbol	Definition
	General warning of potential injury
	Read the users' manual
	Two trained operators required
	Load Capacity/Safe Working Load
	Lock
	Unlock
	Serial Number
	Medical Device
	Compliant with European Union standards
	Compliant with United Kingdom standards
	Date of Manufacture
	Manufacturer

## 1.6 Safety and Instruction Labels

Safety and instruction labels place important information from the users' manual on the Viper Loading System (VLS). Read and follow label instructions. Replace worn or damaged labels immediately.

Symbol	Definition	Part Number
A	Loading arrows, left	52091
B	Loading arrows, right	52092



## 2 - OPERATOR FOCUS

### 2.1 Operator Training

Operator that using the loading system:

- must read and understand this manual.
- must have training on proper use of the loading system.
- must have the physical ability to assist the patient.
- must practice using the loading system before using it with a patient.
- must keep training records. For a sample training record sheet, see "Training Record" on page 30.



#### **WARNING**

**Untrained operators can cause injury or be injured. Permit only trained personnel to operate the loading system.**

## 3 - ABOUT THE PRODUCT

### 3.1 Description

The Ferno® Viper Loading System (VLS) is a medical device designed to load/unload and secure manufacturer-approved stretcher or transporter in a vehicle.

The loading system is for use only by trained operators.

#### COMPATIBLE PRODUCTS

- Ferno® VIPER Stretcher
- Ferno® VIPER2 Stretcher
- Ferno® VIPER Transporter
- Ferno® VIPER2 Transporter



#### WARNING

**Improper use of the loading system can cause injury. Use the loading system only for the purpose described in this manual.**

**An improper stretcher or transporter can cause injury. Use only a compatible Ferno products designed for use with the loading system.**

**Modifying the loading system can cause injury and damage. Use the loading system only as designed by Ferno.**

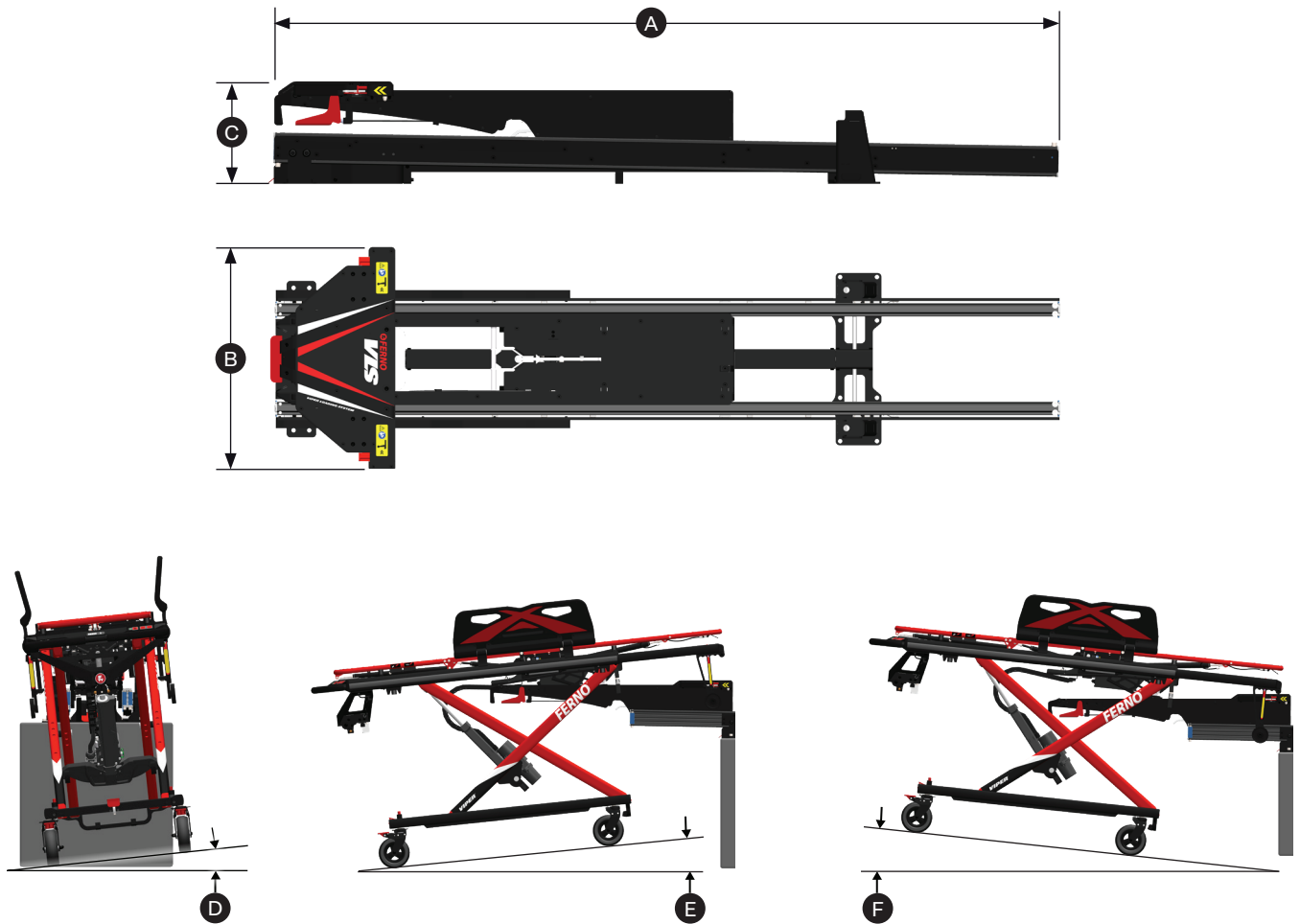
### 3.2 Compliance

The loading system meets the following standards:

- **EN 1865-5:** Patient handling equipment used in road ambulances - Part 5: Stretcher support
- **EN 1789:** Medical vehicles and their equipment – Road ambulances



### 3.3 General Specifications

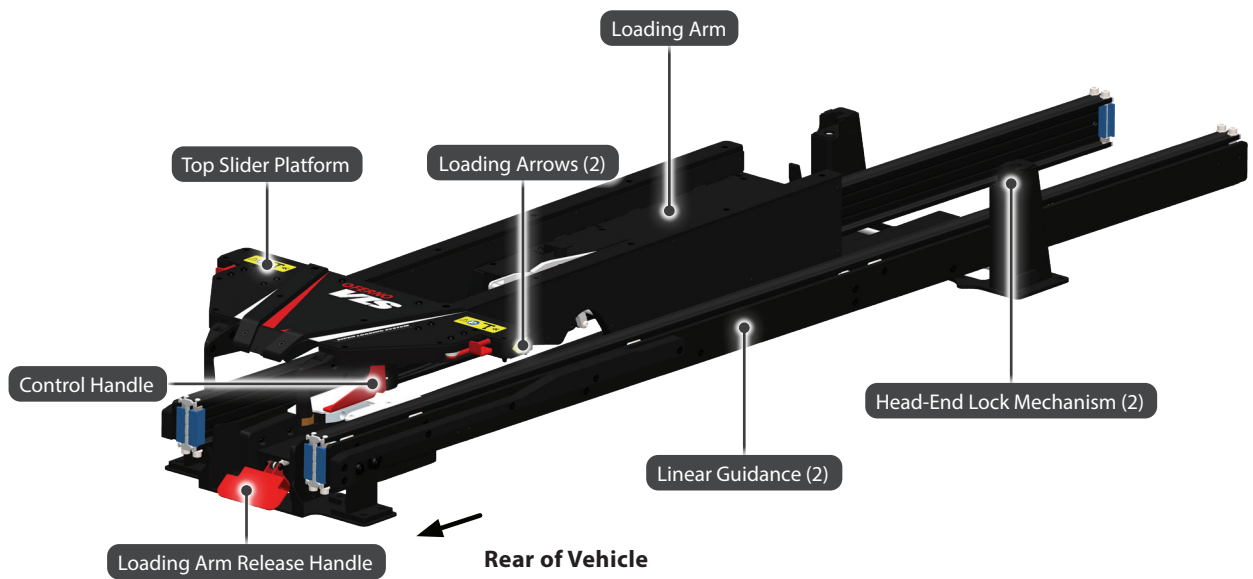


Specifications	Metric	Imperial
A) Length	2000 mm	79"
B) Width (Overall)	570 mm	22"
C) Height	260 mm	10"
D) Maximum lateral incline angle when loading	6°	
E) Maximum longitudinal incline angle (negative) when loading	5°	
F) Maximum longitudinal incline angle (positive) when loading	7°	
Load Capacity	400 kg	882 lb
Weight	68.8 kg	150 lb

Specifications are rounded. Imperial conversions are calculated before rounding the metric measurement. Ferno reserves the right to change specifications without notice.

Load capacity is the amount of weight the loading system is designed to hold, including stretcher, patient and accessories attached.

### 3.4 Components



## 4 - INSTALLATION

### 4.1 Installation Requirements

#### INSTALLER REQUIREMENTS

- To install the loading system, a skilled professional who is familiar with vehicle construction is required.
- Install the loading system to meet or exceed all applicable standards in your country. Each fastener and support structure must be able to withstand the forces associated with the appropriate national standards.
- Two people may be needed for some installation steps.

#### VEHICLE REQUIREMENTS

- Inspect the vehicle for anything that might interfere with the installation.
- **The floor to which the mounting components are attached must have sufficient strength to hold the mounted loading system and stretcher with patient** (see "Installing the Fixations to the Floor" on page 16). Consult the vehicle manufacturer for vehicle structural details and warranty information.
- Install a new loading system when remounting a vehicle box.
- If the vehicle is involved in a traffic accident, inspect it (see "Inspecting" on page 29). Replace any damaged components.
- **Bumper step requirements:**
  - The depth of the bumper step or any other component of the vehicle behind the edge of the loading system must not exceed the distance specified in the table on the right. If the bumper step depth is greater, it must be able to fold.



#### WARNING

**Improper or inadequate installation can cause injury. The installer must test the loading system setup to meet or exceed all applicable guidelines before using the setup in a vehicle.**

**Improper installation can cause injury and damage. Install the loading system only as described in this manual.**

**Failure to use protective equipment can allow injury. Use protective equipment as needed for installation.**

#### NOTICE

Installation fasteners and support structure must be able to withstand the forces associated with the applicable standards within the country where the vehicle will be operated.

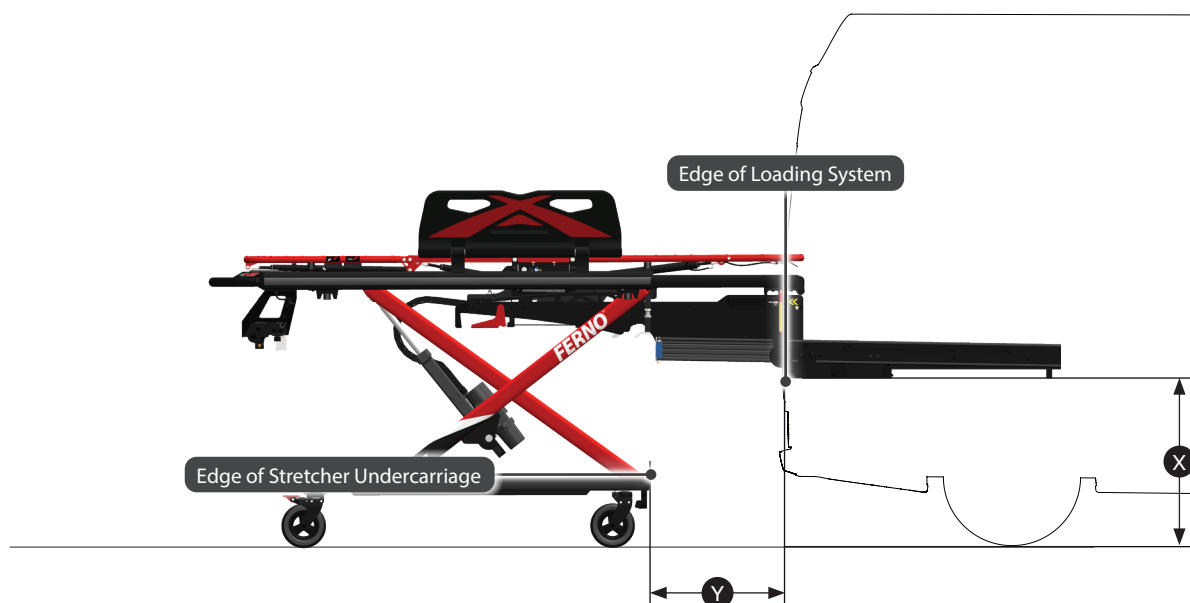
Inspect under the vehicle floor for anything (fuel tank, wiring, brake lines, fuel lines, oxygen lines or other items) that might interfere with the installation.

If the vehicle is involved in a traffic accident, inspect the loading system.

#### X) Floor Height

#### Y) Maximum Distance

900 mm (35.4")	Max 431 mm (17")
800 mm (31.5")	Max 449 mm (17.7")
700 mm (27.5")	Max 460 mm (18.1")
600 mm (23.5")	Max 467 mm (18.4")

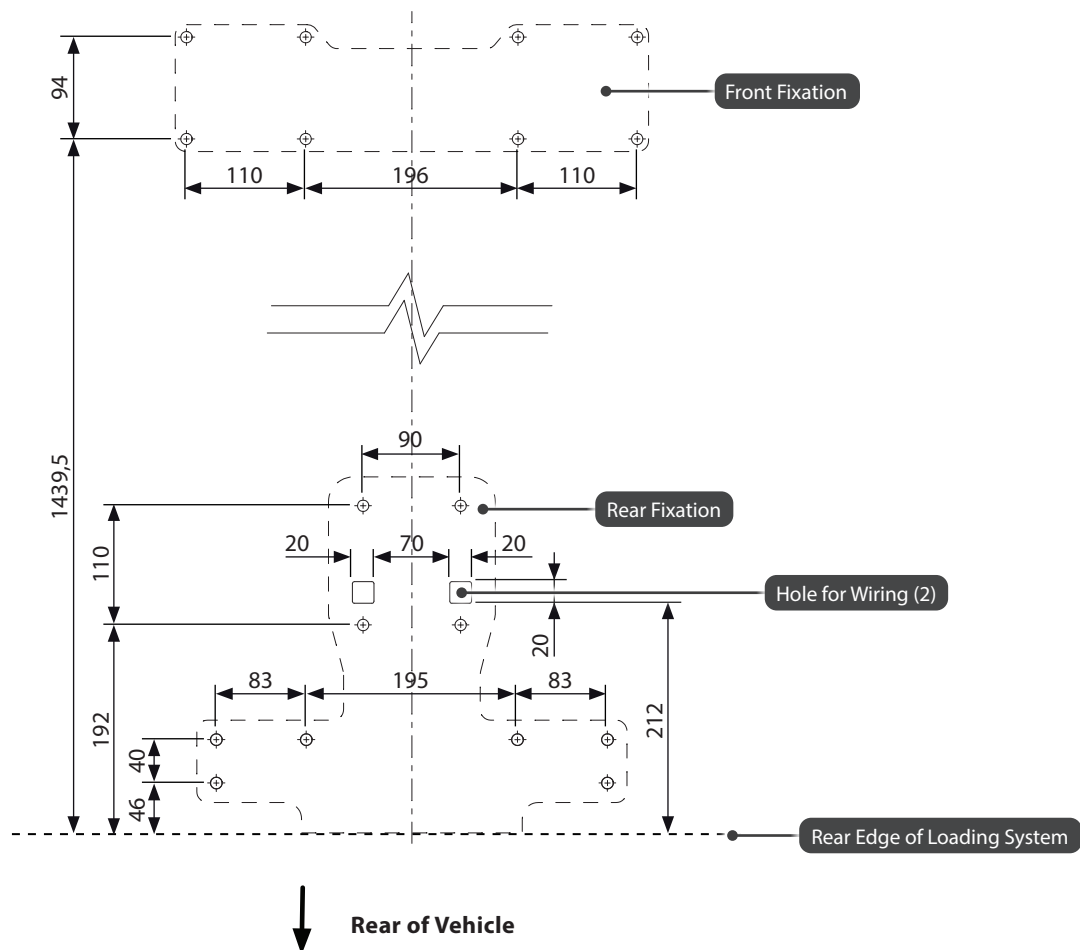


## 4.2 Preparing the Holes in the Floor

Tools Required	Qty.
Drill	1
Drill bit size 10.5	1
Tape measure	1

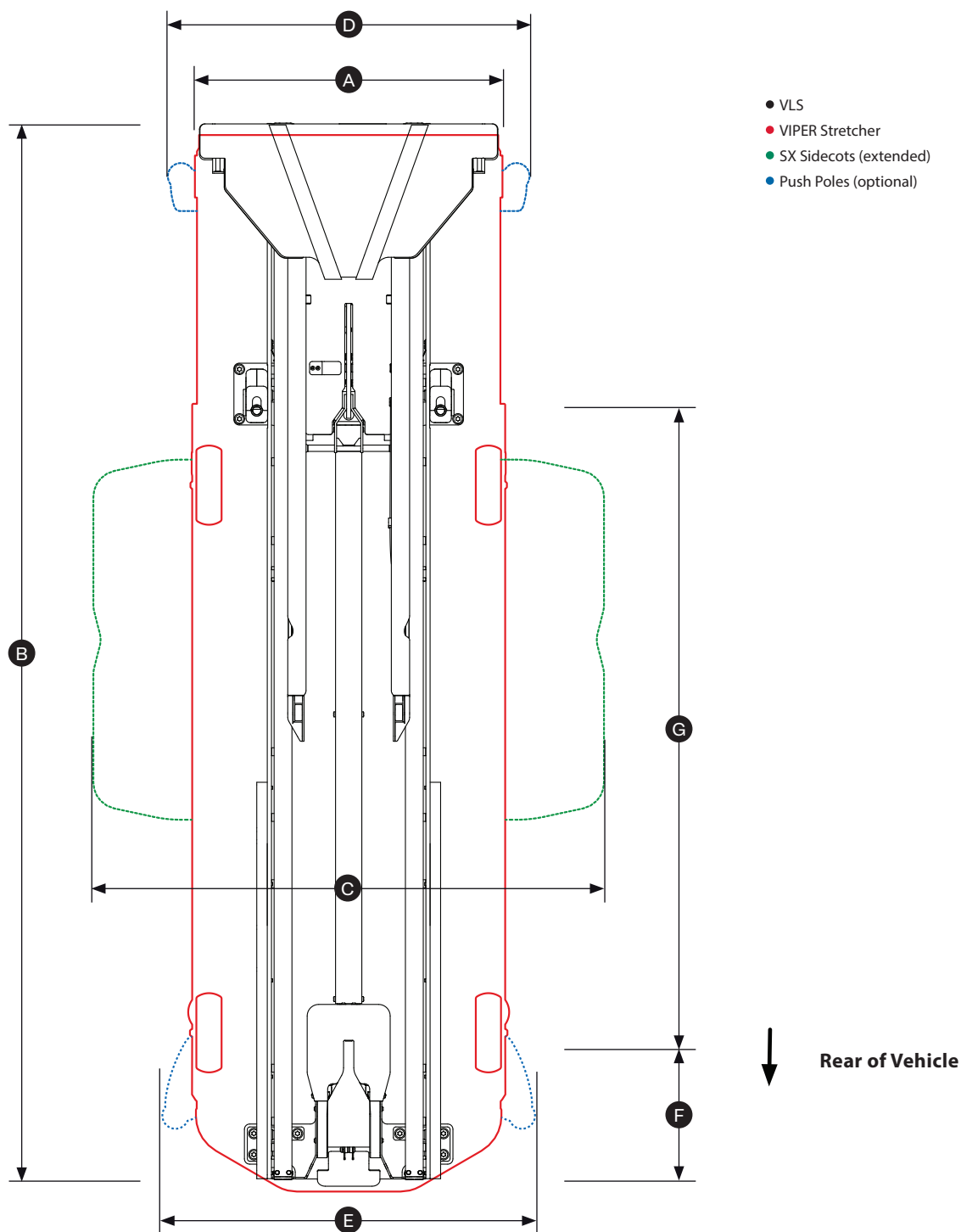
Prepare the holes in the vehicle floor according to the drilling plan (Figure 2). Make sure the loading system is correctly positioned relative to the edges of the optional stretcher platform or vehicle floor (Figure 3).

For the wiring, prepare a hole in the place of one of the two square holes for wiring (Figure 2).



Units are given in millimeters.

## VIPER LOADING SYSTEM (VLS)



3

Specifications	Metric	Imperial
A) Stretcher width	600 mm	23.62"
B) VLS length	2000 mm	78.74"
C) Stretcher width with SX Sidecots fully extended	972.20 mm	38.28"
D) Stretcher width with push poles (head-end)	688.50 mm	27.11"
E) Stretcher width with push poles (foot-end)	709.50 mm	27.93"
F) Distance between the rear edge of VLS and foot-end lock mechanism	243 mm	9.57"
G) Distance between VLS foot-end and head-end lock mechanisms	1231 mm	48.46"

### 4.3 Removing the Covers

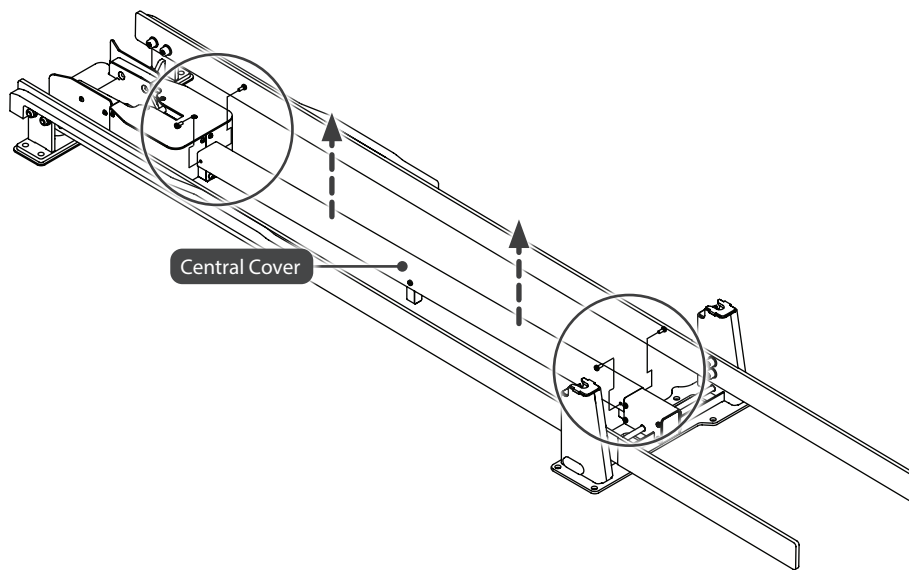
**Tools Required****Qty.**

Torx wrench size T27

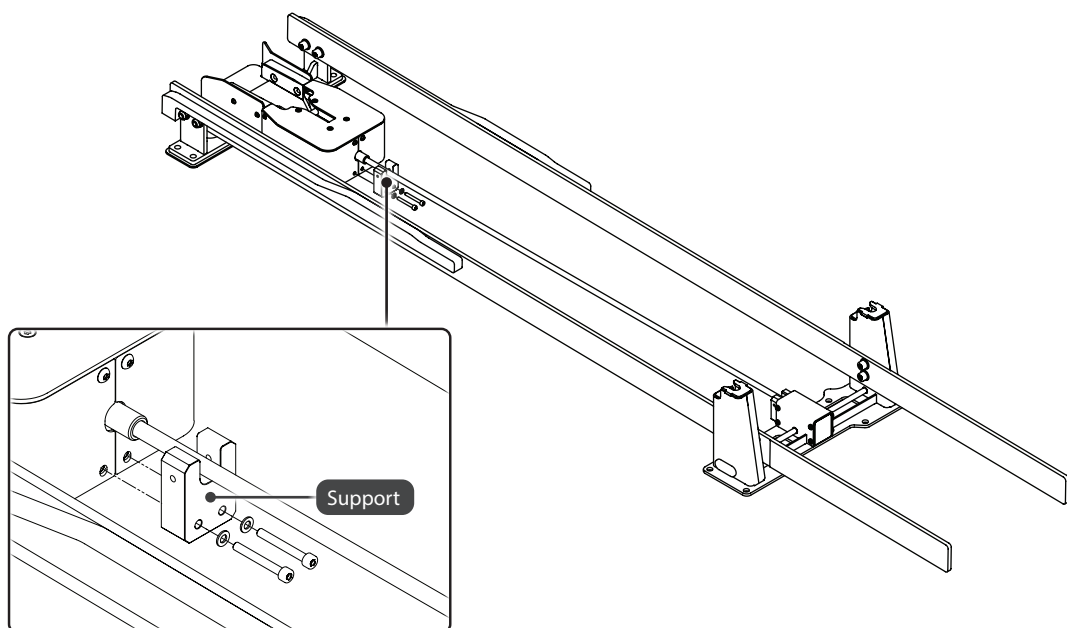
1

1. Loosen the four screws and carefully remove the central cover (Figure 4).
2. Loosen the two screws and remove the support (Figure 5).

Continued on the next page.

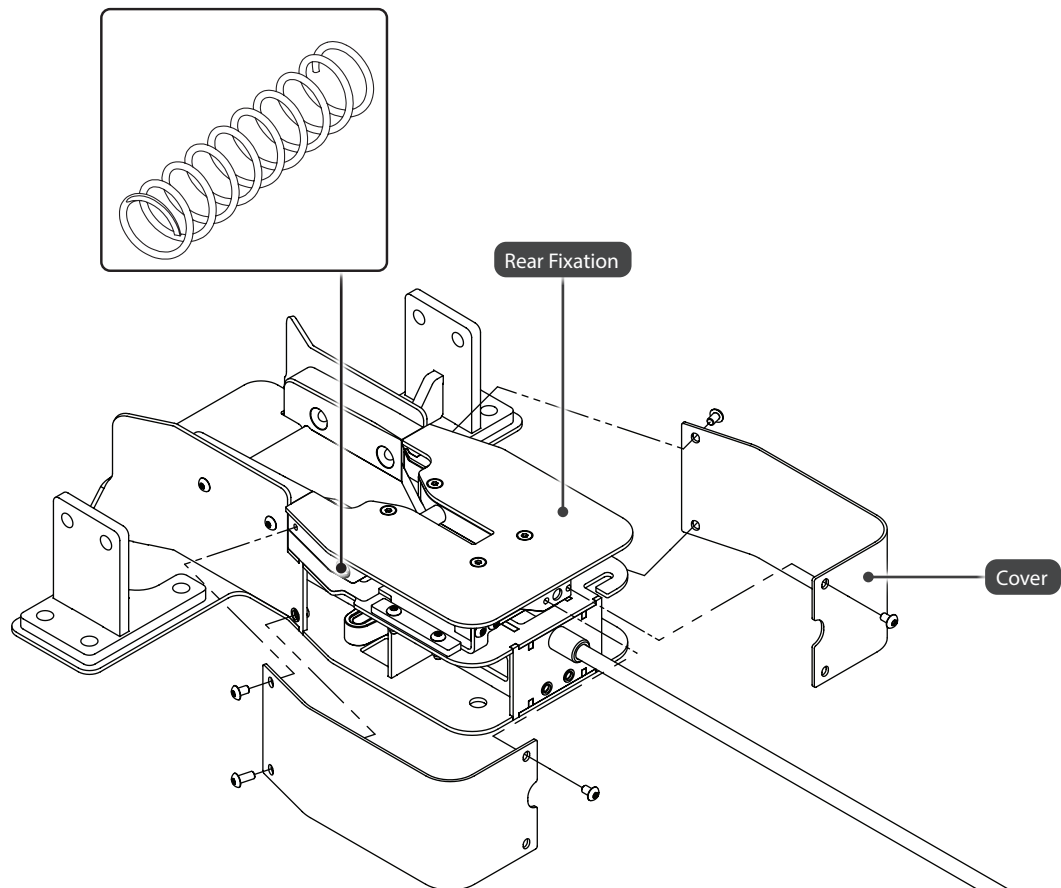


4



5

3. Loosen the six screws from the side covers of rear fixation and carefully remove both covers (Figure 6). During this step, the spring located in the hole on the side of the fixation will be released. Keep the spring in a safe place.



## 4.4 Installing the Fixations to the Vehicle Floor

Before you begin, check if delivery includes interface blocks (Figure 9). Interface blocks are necessary to raise the height of the Viper Loading System in the vehicle to accommodate a stretcher with large 200 mm transport wheels. Refer to "Installing the Interface Blocks" on page 17.

Parts Needed	Qty.
Screw M10 (strength class of 10.9)	18
Loctite 242 (blue) threadlocker	Small amount

Tools Required	Qty.
Hex wrench	1

- Use 18x M10 screws (not supplied) to install the front and rear fixation (Figure 7). The length of screws may differ according to vehicle construction. Always use screws with a minimum strength class of 10.9 and secure the screw connections with threadlocker.
- The square holes on the bottom plate of the rear fixation are designed for the wiring.

### Important

Make sure the fixations are installed in the reinforced sections of the floor. Use steel reinforcements with a minimum thickness of 10 mm (Figure 8).



### WARNING

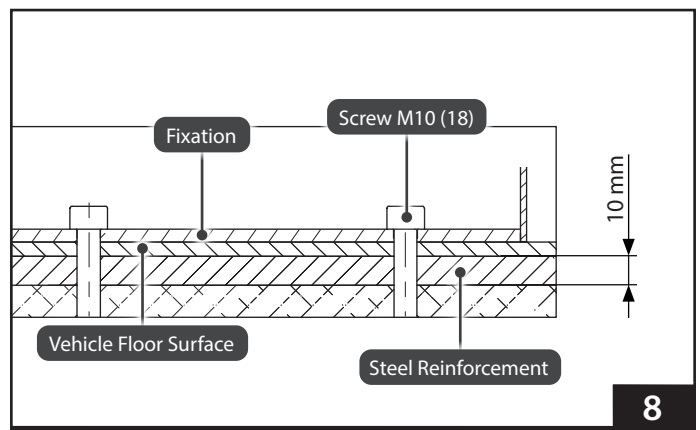
Only use installation elements specified by Ferno when securing the fixations to the floor.

Improper installation can cause injury or damage to the product and/or vehicle. Always ensure the fixations are installed in the reinforced sections of the floor.

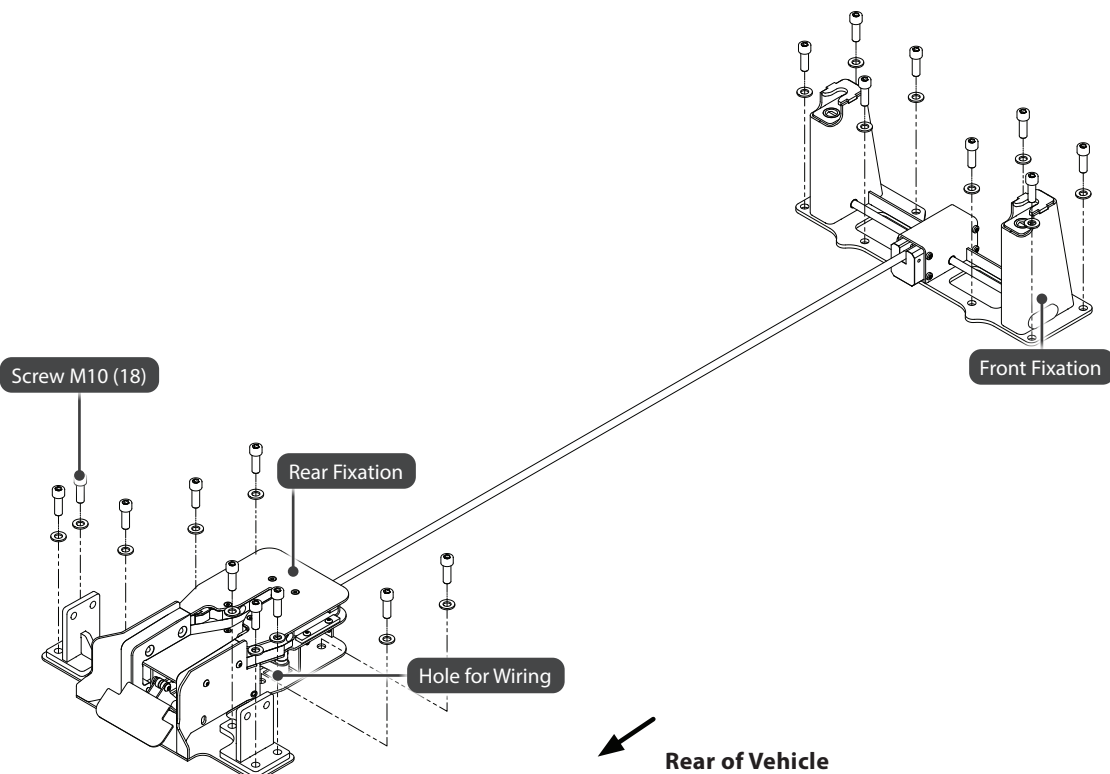
Do not interfere with the structure of the fixation in any way.

### NOTICE

Fasteners for installing the fixations and threadlocker are not included in the delivery.



8



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## 4.5 Installing the Interface Blocks (Optional)

Parts Needed	Qty.
Rear interface block (Part 1)	1
Rear interface block (Part 2)	1
Front interface block	1
Support of central cover	1
Screw M10x20 (strength class of 10.9)	8
Self-locking nut M10 (strength class of 10.9)	4
Screw M10x60 (strength class of 10.9)	14
Flat washer 10.5	4
Loctite 242 (blue) threadlocker	Small amount

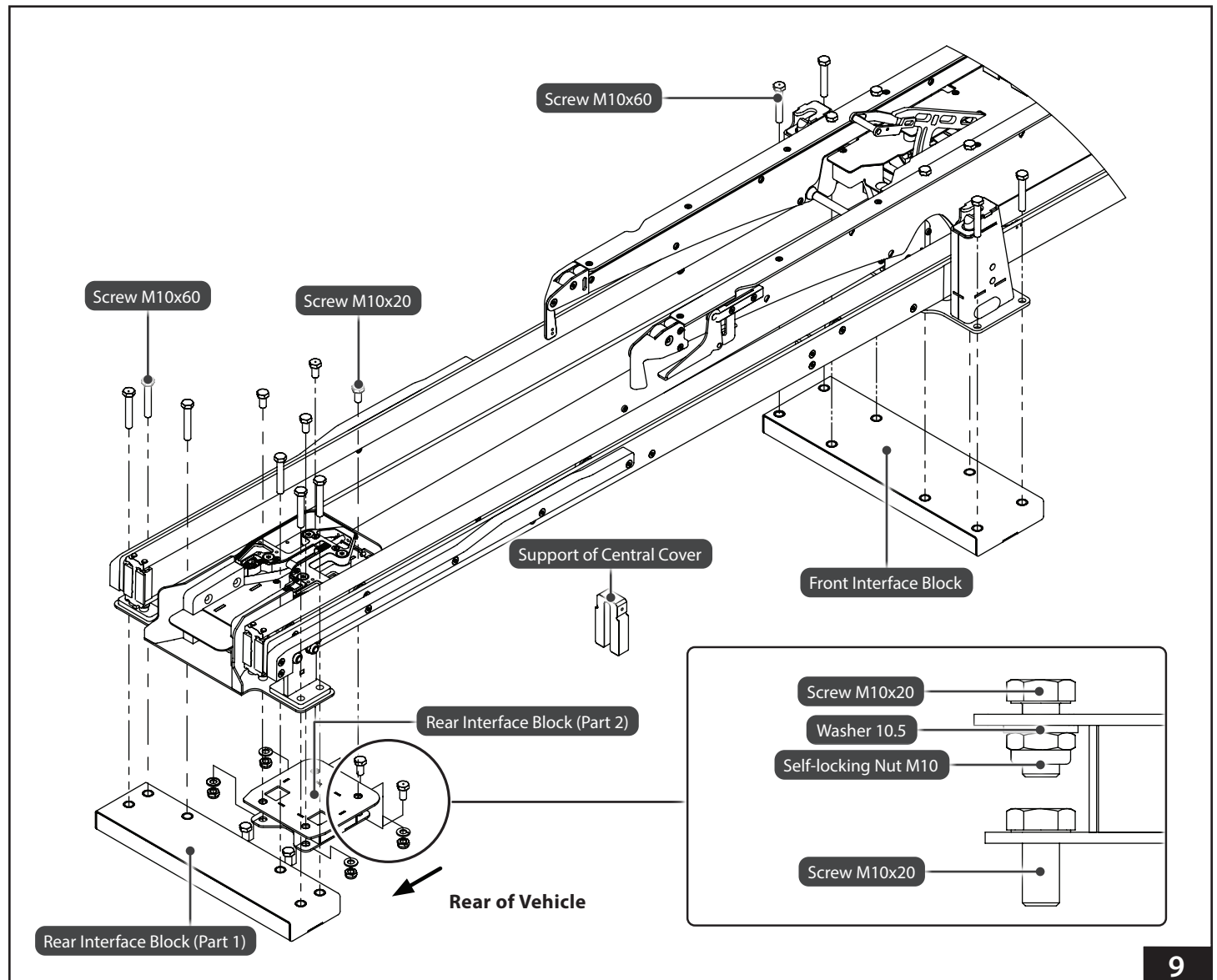
Tools Required	Qty.
Hex wrench	1

To install the interface blocks to accommodate stretchers with 200 mm wheels, follow the fixations installation instructions in this manual, with the following differences:

1. Place the rear interface blocks (Part 1 & Part 2) and front interface block at prepared holes.
2. Use four screws M10x20 to install rear interface block (Part 2) into vehicle floor.
3. Place the loading system on the interface blocks.
4. Replace the support at central cover.
5. Follow the instructions to install fixations to the vehicle floor (page 16).

### Important

Make sure the fixations and interface blocks are installed in the reinforced sections of the floor. Use steel reinforcements with a minimum thickness of 10 mm (Figure 8). If the screws are not long enough to reach the steel reinforcements, use longer screws with a strength class of 10.9.



## 4.6 Connecting the Integrated Charging System

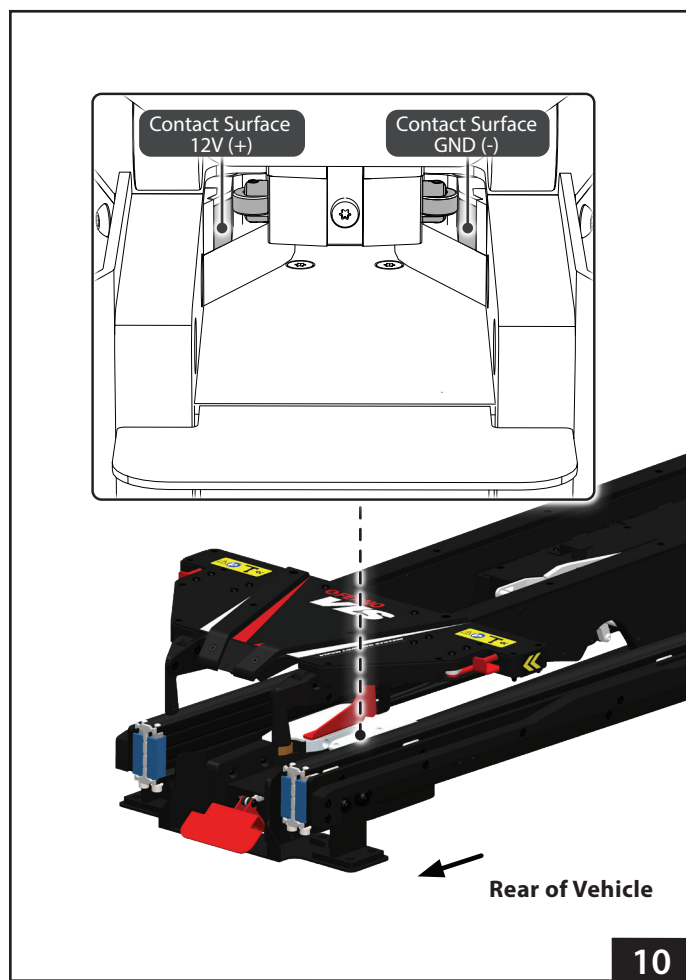
The integrated charging system must be connected by a qualified electrician. When connecting the charging system, follow the vehicle connection requirements listed in the table below.

Vehicle Connection Requirements	Value
Protective fuse	7.5 A
Wiring cross section	4 mm <sup>2</sup> or higher
Maximum voltage	15 V
Minimum voltage (VIPER)	13.7 V
Minimum voltage (VIPER2)	11.5 V
Maximum current	4 A

- Contact surfaces for charging the loading system are located at rear fixation (Figure 10).
- Route dedicated cables directly from 7.5 A protective fuse through the hole for wiring (Figure 7) and connect with the **red 12V (+)** and **black GND (-)** cables inside the rear fixation. Do not connect any other devices on that cable.
- Use voltmeter to verify voltage and orientation between contact surfaces.

### WARNING

Incorrect wiring installation can cause damage to the loading system. The connection of integrated charging system must be performed as described in this manual by a qualified electrician.

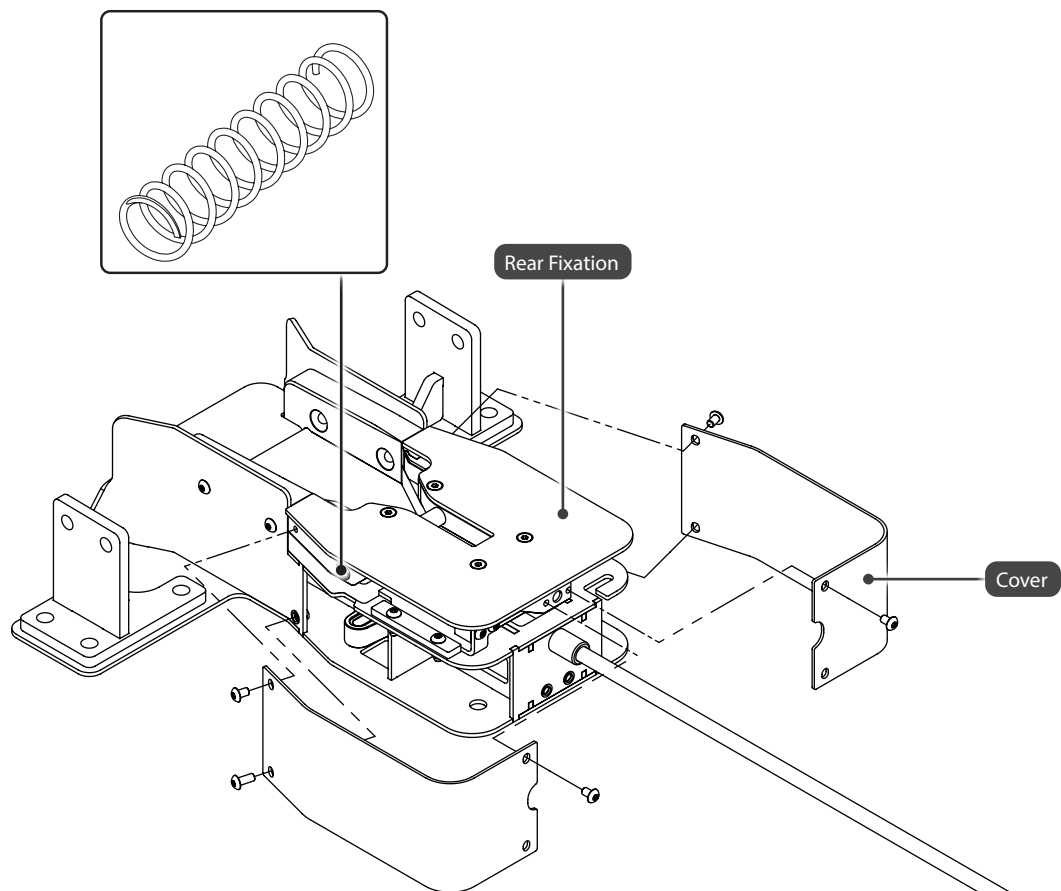


## 4.7 Installing the Covers

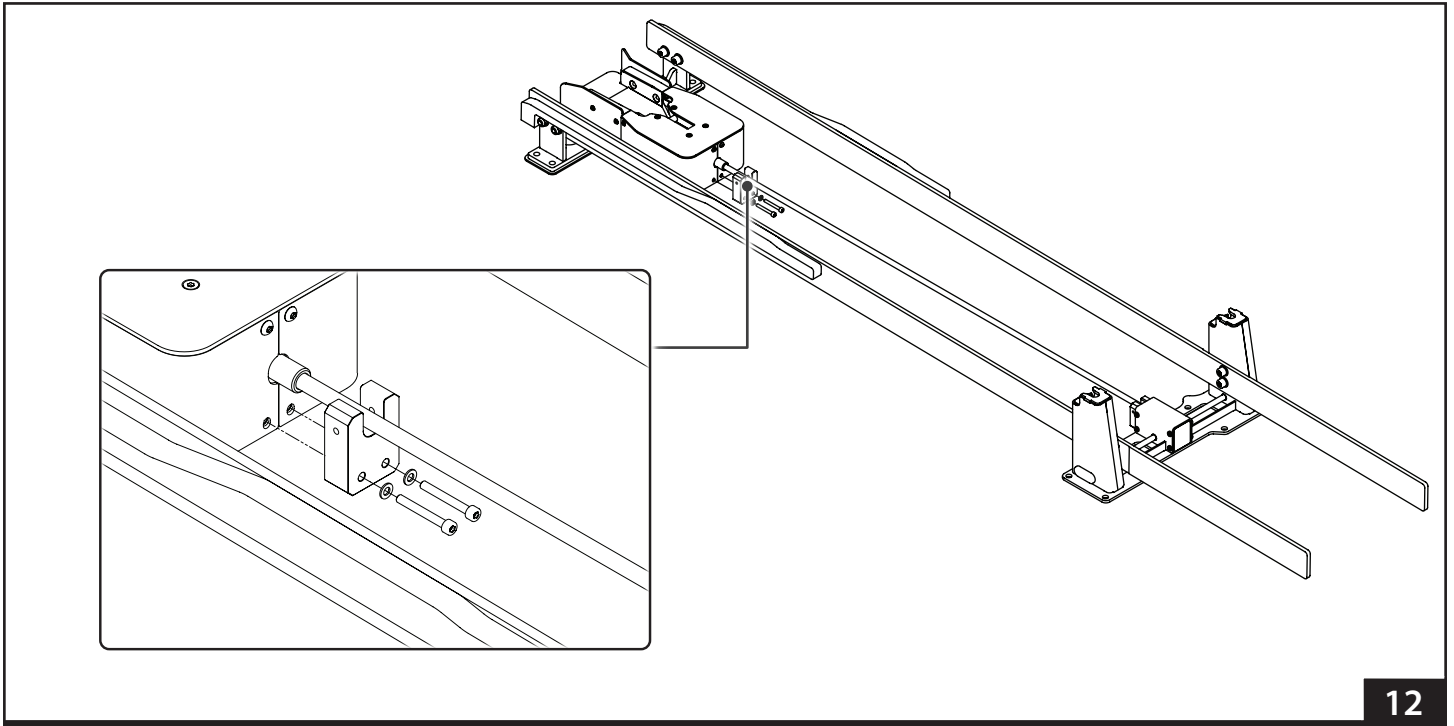
Tools Required	Qty.
Hex wrench size 3	1
Loctite 242 (blue) threadlocker	Small amount

1. Place the spring back into the spring hole and use the six screws from the side covers to install both covers of the rear fixation (Figure 11). Secure the screw connections with threadlocker.

Continued on the next page.

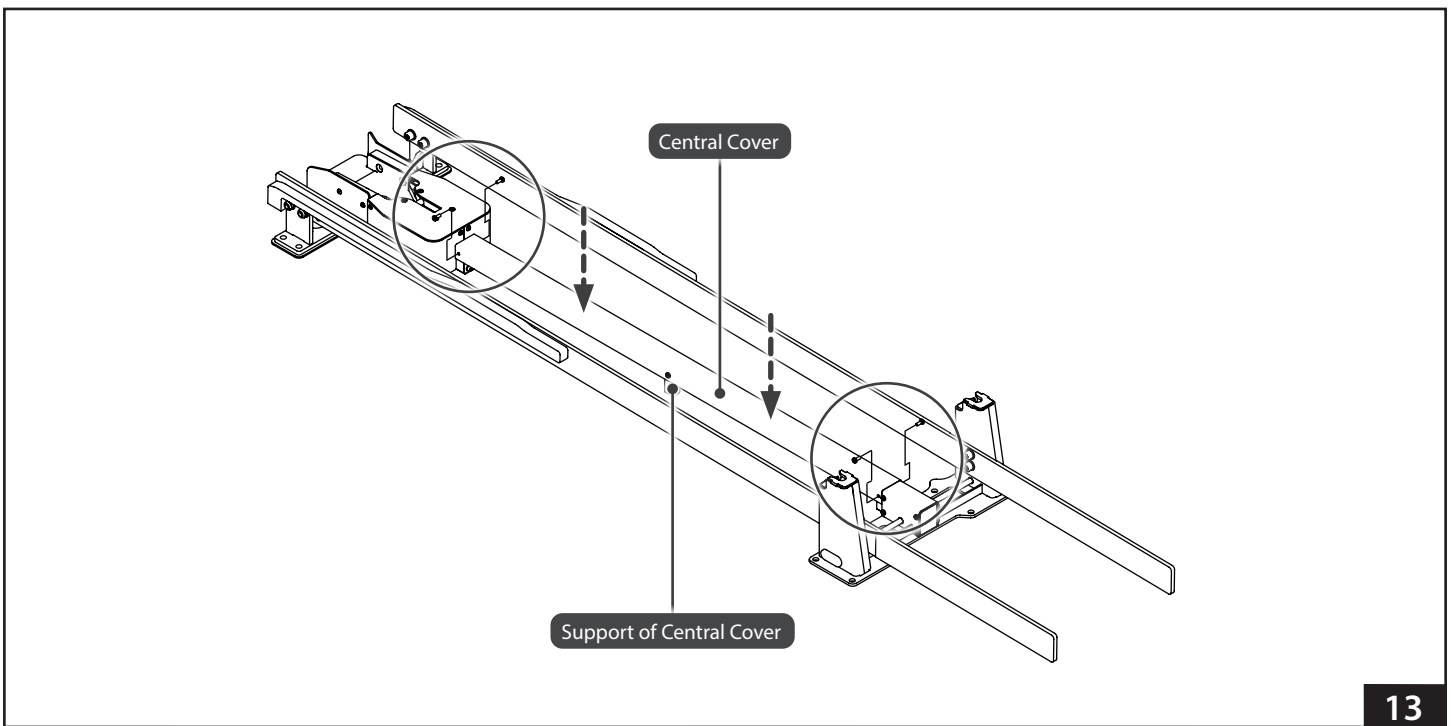


2. Use the two screws to reinstall the support (Figure 12).



3. Use the four screws to install the central cover back in place (Figure 13).

**Note:** If interface blocks are installed (see page 17), the support of central cover must be replaced.



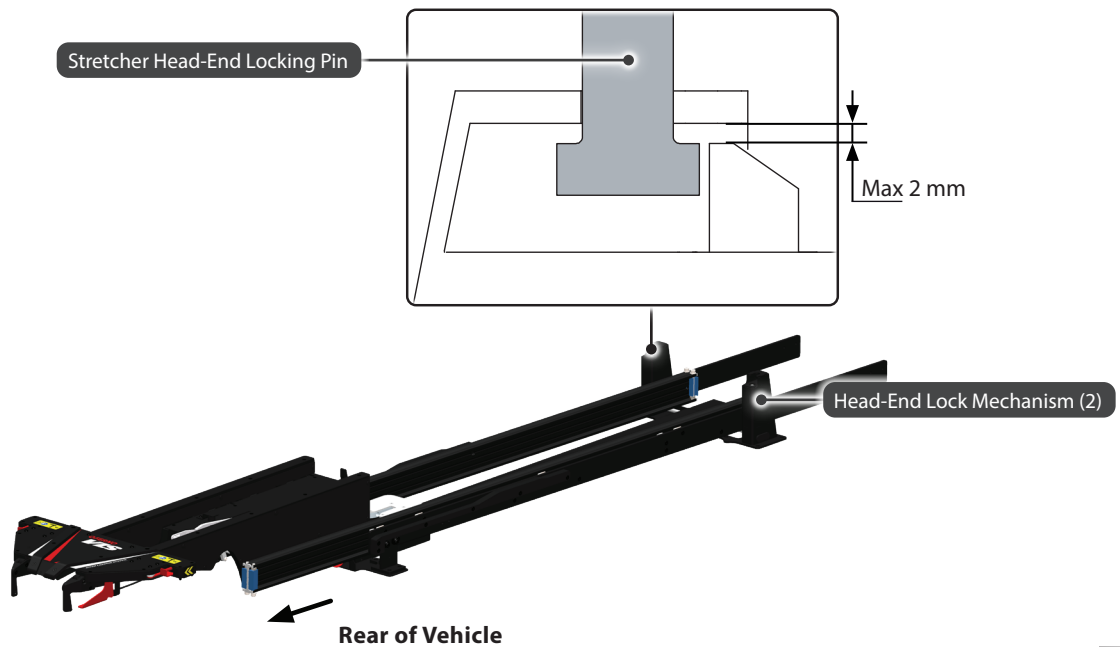
## 4.8 Installing the Stretcher

- Make sure the fixation mechanism is working properly. If necessary, adjust the height of the head-end locking pins on the stretcher so that its distance from the head-end lock mechanism is minimized (Figure 14).
- Confirm that the loading system operates properly and is securely locked to the vehicle floor.
- Confirm that the stretcher is charging when locked in loading system.
- The loading system is for use with manufacturer-approved products only. See "Compatible Products" on page 8.

### WARNING

Improperly adjusted locking pins can cause damage and injury. Always make sure the locking pins are working properly before use.

An improper stretcher can cause injury. Use only a manufacturer-approved stretcher designed for use with the loading system.



## 5 - FEATURES

### 5.1 Loading Arm Release Handle

The red loading arm release handle is located at rear of the loading system (Figure 15). Push the loading arm release handle down to unlock the stretcher for unloading. It may be necessary to move the stretcher slightly forwards if the vehicle is not on the flat ground whilst pushing down on the release handle. Refer to the stretcher users' manual for more information about unloading.

### 5.2 Foot-End Lock Mechanism

The Foot-End Lock Mechanism is located at rear of the loading system (Figure 15). It locks the foot-end of the stretcher in the loading system during vehicle transport.

### 5.3 Head-End Lock Mechanisms

The Head-End Lock Mechanisms are located at front of the loading system (Figure 16). It locks the head-end of the stretcher in the loading system during vehicle transport.

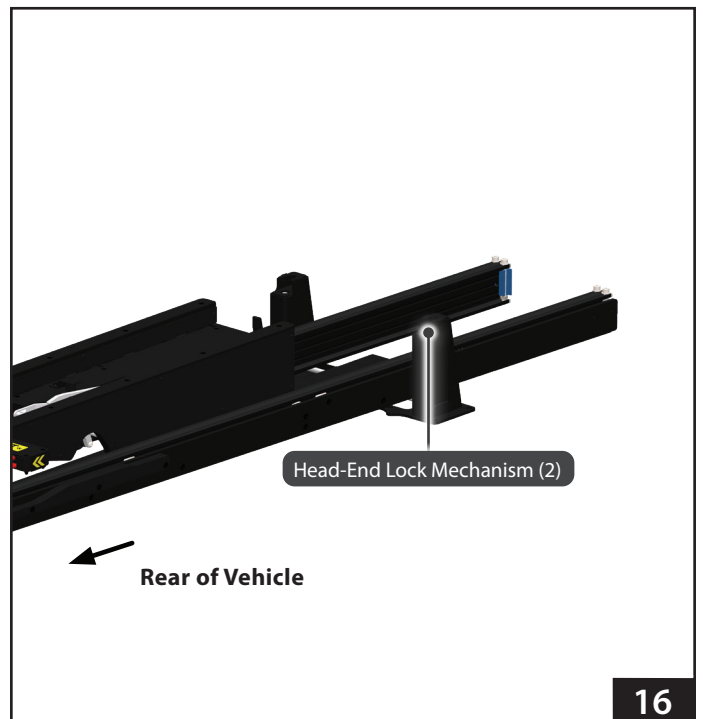
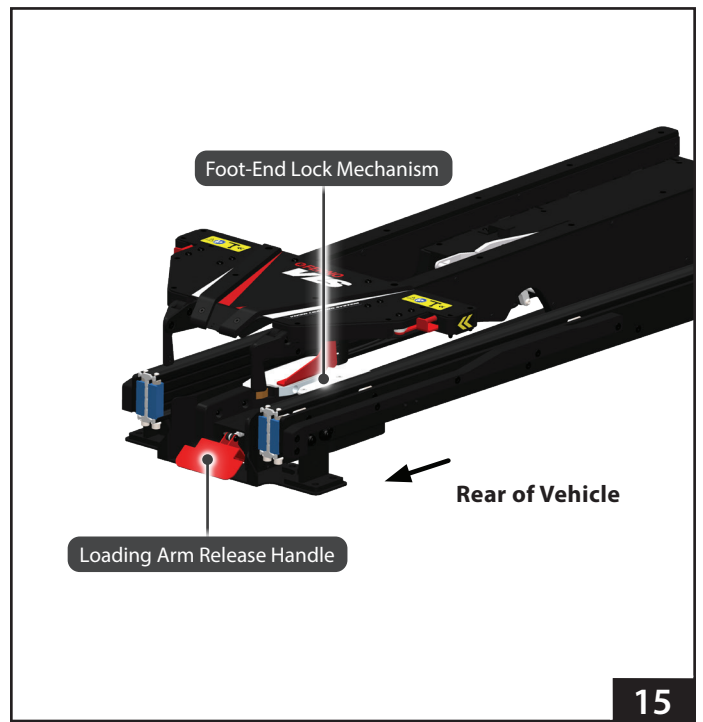
### 5.4 Integrated Charging System

The integrated charging system (ICS) is located at rear fixation of the loading system. When a stretcher is locked in the loading system and the ICS is connected and powered, the ICS will:

- disable powered operation of the stretcher
- charge the stretcher battery

The vehicle ignition, inverter, and/or outlet switch may need to be turned ON to supply electrical power to the ICS.

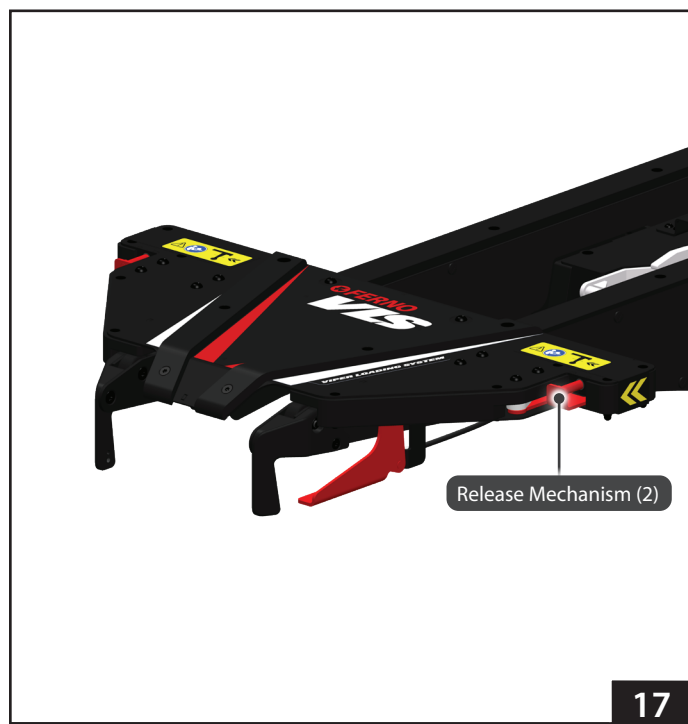
The stretcher battery is charging if the indicator lights on the stretcher are flashing green. Refer to the stretcher users' manual for more information.



## 5.5 Top Slider Platform

The top slider platform is designed to help guide the stretcher onto the loading arm from different angles and elevations.

The angled shape of the slider ensures that the stretcher is easily centralised in line with the loading arm. As the stretcher is moved towards the loading arm, the release mechanisms (Figure 17) on both sides of the top slider platform need to be engaged, then allowing the stretcher to continue to be loaded.



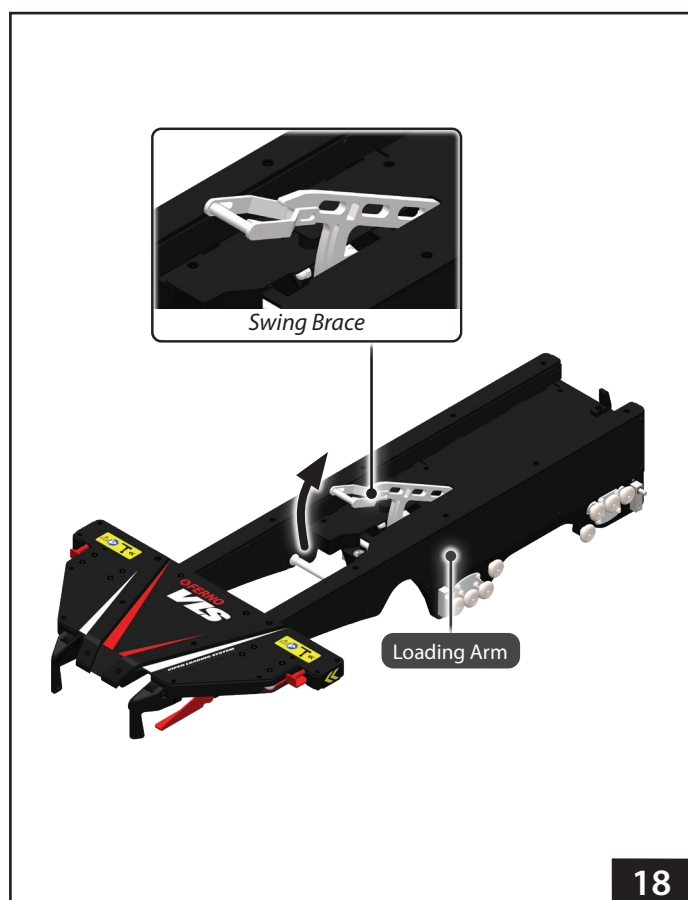
17

## 5.6 Loading Arm

The loading arm is designed to support the weight of the stretcher, patient, and attached accessories when loading into the vehicle.

As the stretcher is moved towards the loading arm, the swing brace is automatically released and raised (Figure 18) and captures and secures the stretcher into the loading arm as it is being loaded.

This mechanism allows for safe loading at various angles (see "General Specifications" on page 9).



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## 6 - USING THE LOADING SYSTEM

### 6.1 Before Placing the Loading System in Service

- Before use, personnel who will work with the loading system must read and understand this manual. Appropriate training is also required. See "Operator Training" on page 7.
- Install any accessories shipped with the loading system, if not already fitted. Keep accessory users' manuals with this manual for future reference.
- Make sure the stretchers' loading height is set correctly. Refer to the stretcher users' manual.
- Confirm that the loading system operates properly. See "Inspecting" on page 29.



#### WARNING

**Improper operation can cause injury. Operate the loading system only as described in this manual.**

**An improper stretcher or transporter can cause injury. Use only a compatible Ferno products designed for use with the loading system.**

### 6.2 General Guidelines for Use

Medical advice is beyond the parameters of this manual. It is the operators' responsibility to ensure safe practices for the patient and themselves.

- Follow standard patient-handling procedures when operating the loading system.
- Talk to the patient. Communicate with the patient before loading/unloading the stretcher.
- Stay with the patient at all times. Do not leave a patient unattended.
- **Read the stretcher users' manual for loading/unloading instructions.**



### 6.3 Extending / Retracting the Loading Arm without a Stretcher

#### EXTENDING THE LOADING ARM FROM THE VEHICLE

1. Hold the slider with both hands.
2. Squeeze the red control handle to unlock the loading arm (Figure 19).
3. Pull the loading arm out from the vehicle past the first lockout point (lower linear guide fully extended) and continue pulling until it stops (top loading arm now fully extended on the linear guide).
4. Release the control handle and slightly move the loading arm in and out to make sure it is fully locked in place.

#### Important

Always make sure the loading system is in the correct position with both the loading arm and the linear guide fully extended (Figure 20) before attempting to load the stretcher.

#### RETRACTING THE LOADING ARM INTO THE VEHICLE

1. Hold the slider with both hands.
2. Squeeze the control handle to unlock the loading arm (Figure 19).
3. Start to push the loading arm into the vehicle.
4. Release the control handle and continue to push the loading arm into the vehicle; the loading arm will automatically stop when the slider is aligned with the rear edge of the loading frame (Figure 21).
5. Slightly move the loading arm in and out to make sure it is fully locked in place.
6. The loading arm release handle should be horizontal if the loading arm is correctly locked in place.

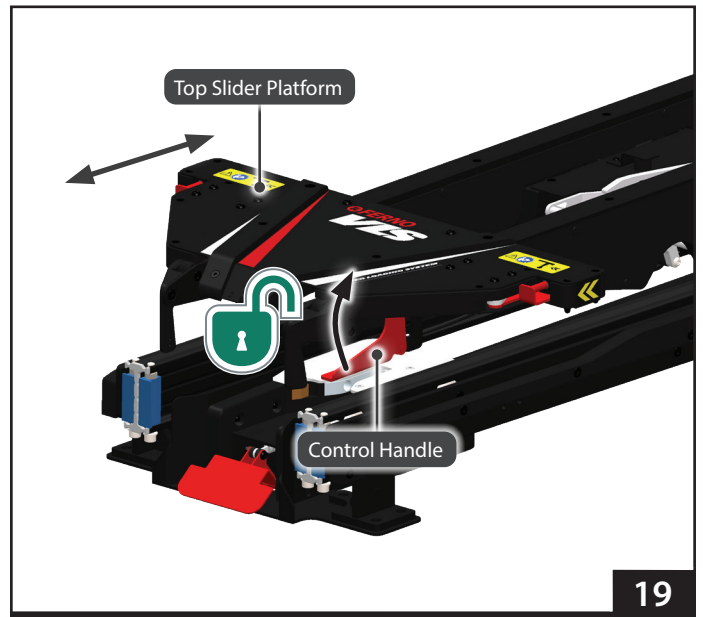


#### WARNING

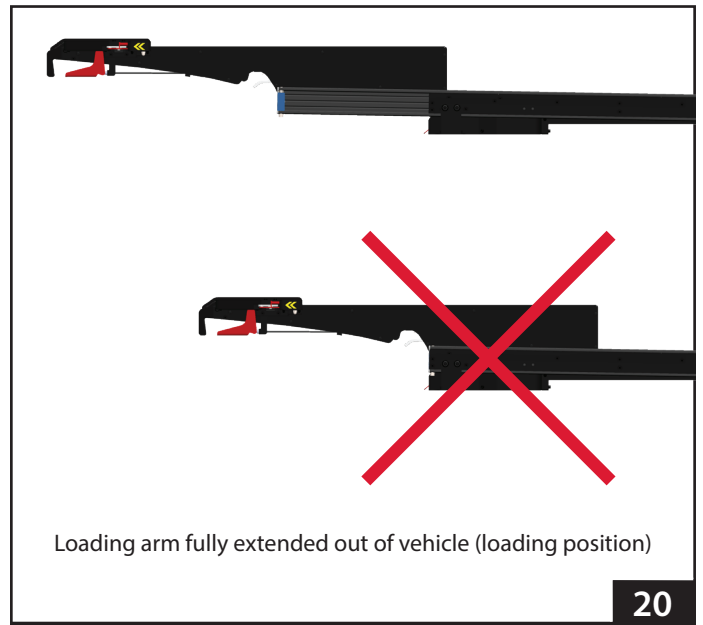
**An unattended, unlocked loading arm can cause injury or damage. Always ensure the loading arm is securely locked when the loading system is not in use.**

#### NOTICE

When pulling out, the loading arm first moves along the grooves of the linear guide. Then, it magnetically connects to the linear guide rails, allowing the entire system to move outward from the vehicle.

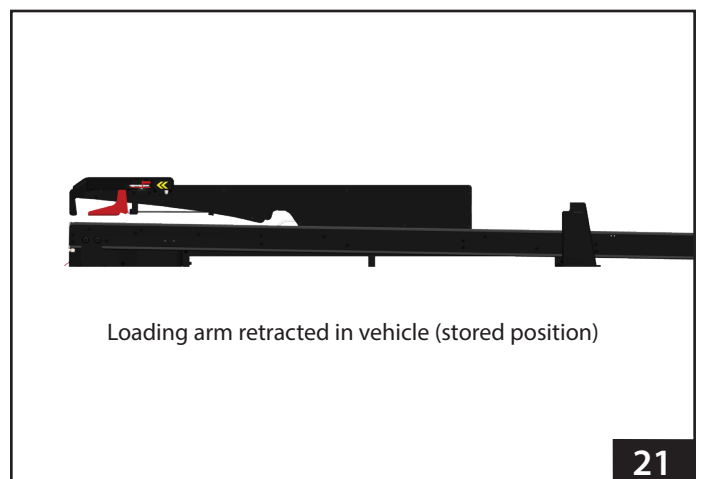


19



Loading arm fully extended out of vehicle (loading position)

20



Loading arm retracted in vehicle (stored position)

21

## 6.4 Loading the Stretcher

The steps for loading the stretcher can vary depending on the compatible stretcher used with the loading system. **Always refer to the stretcher users' manual for specific loading instructions.**

Loading the stretcher into a vehicle with a patient on it requires a minimum of two trained operators.

1. Raise the vehicle folding bumper, if present.
2. Move the stretcher near the vehicle's back door.
3. Fully extend the loading arm (see "Extending / Retracting the Loading Arm without a Stretcher", page 22).
4. Raise the stretcher to the loading height. The yellow arrows on loading arm should be aligned with the loading height range shown on the stretcher (Figure 22). If not, adjust the stretcher height accordingly.
5. Align the stretcher with the loading system, then move the stretcher into the vehicle until the stretcher locks in the loading arm (Figure 23). Make sure the stretcher is secured in loading arm. If not, adjust and retry.
6. Retract the stretcher's legs (Figure 24).
7. Push the stretcher completely into the vehicle and confirm it is locked into the loading system. The loading arm red release handle must be in horizontal position (Figure 25).

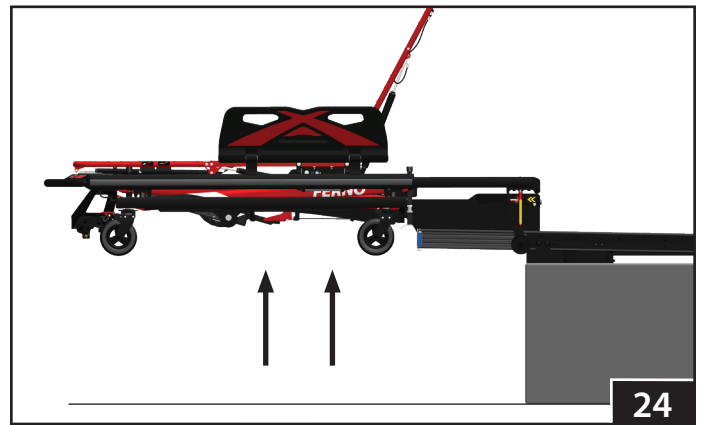
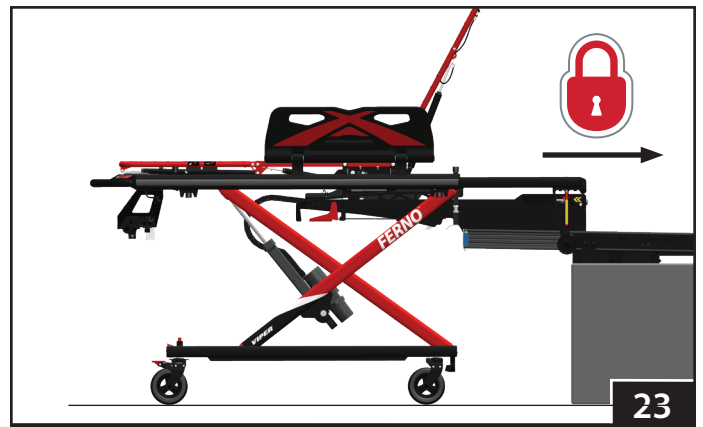
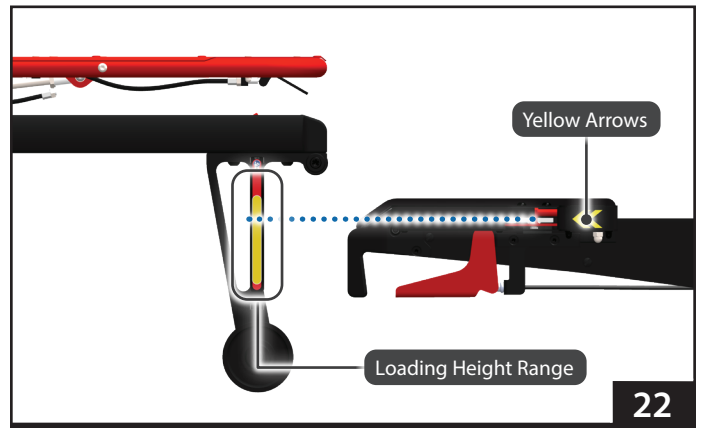


### WARNING

Failure to move the stretcher into the loading arm within the loading height range can cause injury or serious damage to the product. Always make sure the yellow arrows on loading arm align with the loading height range on the stretcher before loading.

### NOTICE

If the vehicle is parked on an uneven surface, the operators may need to adjust the loading height to allow the stretcher to lock into the loading arm.



## 6.5 Unloading the Stretcher

The steps for unloading the stretcher can vary depending on the compatible stretcher used with the loading system. **Always refer to the stretcher users' manual for specific unloading instructions.**

Unloading the stretcher from a vehicle with a patient on it requires a minimum of two trained operators.

1. Raise the vehicle folding bumper, if present.
2. Push down on the loading arm release handle to unlock the loading arm (Figure 26).
3. At the same time grasp the stretcher with both hands and move the stretcher completely out of the vehicle until the loading arm stops.
4. Extend the stretcher's legs until they touch the ground and the stretcher is safe to release (Figure 27).
5. Disengage the stretcher from loading arm (Figure 28).
6. Move the stretcher out of the loading arm.
7. Retract the loading arm into the vehicle before closing the vehicle's back door (see "Extending / Retracting the Loading Arm without a Stretcher", page 21).

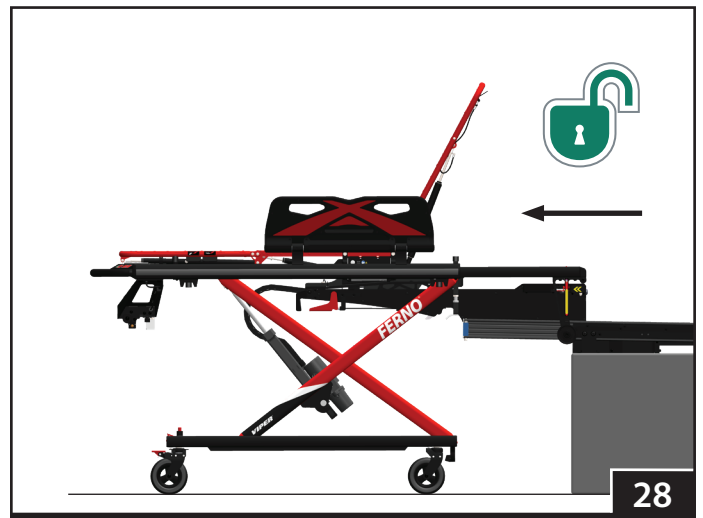
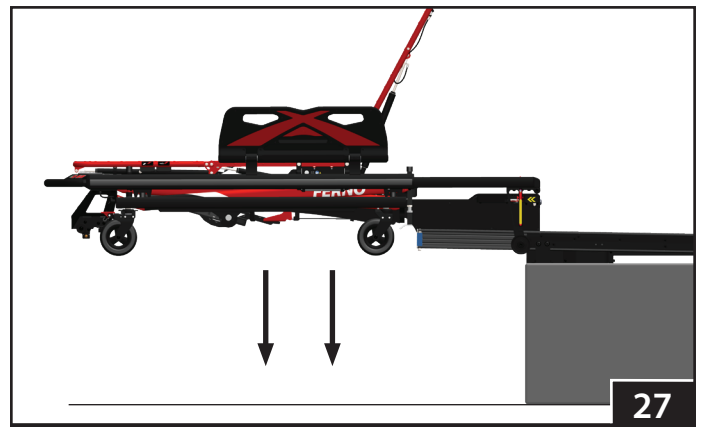


### WARNING

Disengaging the stretcher from the loading arm before the legs touch the ground can cause injury or serious damage to the product. Only disengage the stretcher when it is safe to release.

### NOTICE

If the vehicle is parked on an uneven surface, the operators may need to adjust the stretcher height to allow the stretcher to roll out of the loading arm.



## 7 - MAINTENANCE

### 7.1 Maintenance Schedule

The product requires regular maintenance. Set up and follow a maintenance schedule. The table at right represents minimum intervals for maintenance.

Keep maintenance records. For a sample record sheet, see "Maintenance Record" on page 49.

When using maintenance products, always follow the instructions given by the manufacturers, and read any material safety data sheets.

### 7.2 Service Life

Many factors affect a product's service life, including frequency of use, local environment, maintenance and other factors.

Follow the disinfecting, cleaning, and inspection procedures in this manual to ensure long life for the loading system.

### 7.3 Disinfecting

Wipe all surfaces with disinfectant. Follow the disinfectant manufacturer's instructions for application method and contact time. It is recommended to inspect the product for damage as you disinfect it.

### 7.4 Cleaning

1. Remove the stretcher and any equipment that might interfere with cleaning procedure.
2. Fully extend the loading arm (see "Extending / Retracting the Loading Arm without a Stretcher" on page 24).
3. Hand clean all surfaces of the product with warm water and a mild detergent.
4. Rinse with warm, clear water. Dry the product with a towel or allow it to air-dry.

**Note:** Do not lubricate the product. Lubricating allows dirt and foreign particles to collect on product, resulting in damage.

### 7.5 Preventative Maintenance Inspections

Preventative maintenance inspections must be performed by a factory-trained service technician regularly. The product is first checked 24 months after purchase and then every 12 months. Always make sure the product is properly cleaned and disinfected before inspection.

### 7.6 Storing the Product

- Store the product only indoors in a cool, dry place.
- Avoid exposure to direct sunlight and extreme temperatures.



#### WARNING

**Improper maintenance can cause injury or damage. Maintain the product as described in this manual.**

**Failure to perform preventative maintenance inspections can cause injury or damage. Have the product inspected regularly by a trained technician.**

Minimum Maintenance	Each Use or Daily	As Needed	Monthly
Disinfecting (this page)	•		
Cleaning (this page)		•	•
Inspecting (page 29)		•	•

#### NOTICE

Disinfectants and cleaners containing phenolics or iodines can cause damage. Do not use products containing these chemicals. If bleach is used, rinse with plenty of clear water to remove bleach residue.

Using abrasive cleaning compounds or applicators on the product can cause damage. Do not use abrasive materials to clean the product.

Do not lubricate the product. Applying lubricant can cause damage to the product.

Clean and disinfect the product properly before preventative maintenance inspection.

## 7.7 Inspecting

Inspect the product regularly. Follow the checklist on the right and try all the product functions described in this manual.

A daily inspection is recommended at the start of each operator shift.

If the inspection reveals damage or excessive wear, remove the loading system from service until it has been repaired.

### NOTICE

Make sure all connections are tight, but **do not overtighten the hardware**. Overtightening, especially with powered tools, can cause the nut and bolt beneath the vehicle floor to pull through the backing plate.

If inspection indicates the components are pulling through the backing plate, take the loading system out of service immediately and install a new loading system with new backing plates.

### Inspection Checklist

- Are all components present?
- Is the loading system free of excessive wear?
- Are all parts in good condition (no cracks, corrosion, or damage)?
- Do all moving parts operate smoothly and properly?
- Does the stretcher load and unload properly?
- Does the stretcher lock properly into the loading system?
- If the electrical power is on, does the stretcher charge when locked into the loading system?
- Monitor the vehicle floor, including beneath the vehicle, and check the integrity of the loading system. Is the system worn? Has exposure to the environment caused noticeable damage?
- Is all hardware tight? Reminder: Do not overtighten the hardware.

## TRAINING RECORD

[illegible]

## MAINTENANCE RECORD

[illegible]

Aviation

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Military

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Mortuary

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EMS

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Rescue

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