

## Installation instructions for the HESTAL tarpaulin tensioner *TensionMaster IV*

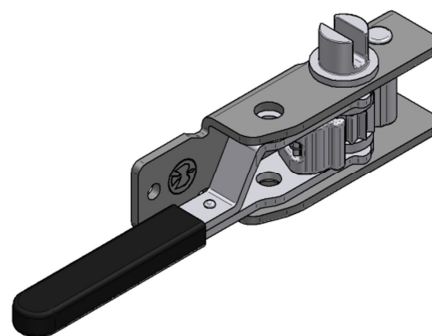
These installation instructions are intended for vehicle operators and trained qualified personnel.

Do NOT have installation work carried out by laymen!

If you have any uncertainties or questions regarding installation, we will be glad to assist you over the telephone.

### Contents

1. General .....	1
2. Regulations .....	1
3. Technical description.....	1
4. System overview - housing types.....	2
5. General information .....	3
6. Mounting.....	3
7. Dimensions of the version for the tarpaulin bracing tube 4	
8. Function of singlehanded operation .....	4
9. Important information .....	4
10. Checklist for final inspection .....	5



### 1. General

The HESTAL *TensionMaster IV* is a mechanical device for tensioning and untensioning lateral sliding tarpaulins on commercial vehicles in order to facilitate loading and unloading.

The HESTAL *TensionMaster IV* is available in 3 different housing designs, each with a squared shaft (left / right) or slotted shaft (left / right) respectively.

### 2. Regulations

The following regulations and directives must be observed:

DGUV Regulation 1 "Accident Prevention Regulation - Principles of Prevention" (formerly BGV A1)

DGUV Regulation 70 "Vehicles" (formerly BGV D 29)

DGUV Principles 314-002 "Monitoring of Vehicles by Driving Personnel" (formerly BGG 915)

DGUV Principles 314-003 "Inspection of Vehicles by Experts" (formerly BGG 916)

DGUV Rules 109-009 "Vehicle Maintenance" (formerly BGR 157)

StVZO (German Road Traffic Ordinance)

VDI Directive 2700 "Load Securing on Road Vehicles"

Vehicle manufacturer assembly guidelines

### 3. Technical description

The HESTAL *TensionMaster IV* is used to tension the tarpaulin of a commercial vehicle superstructure by means of lock mechanism.

The tarpaulin is tensioned manually using a swivelling hand lever in several single strokes.

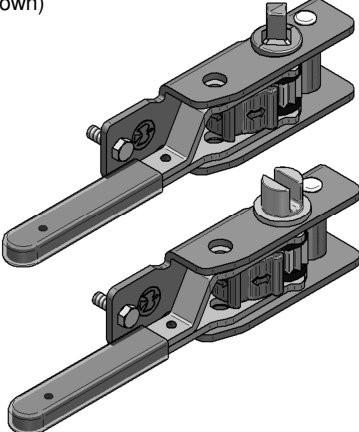
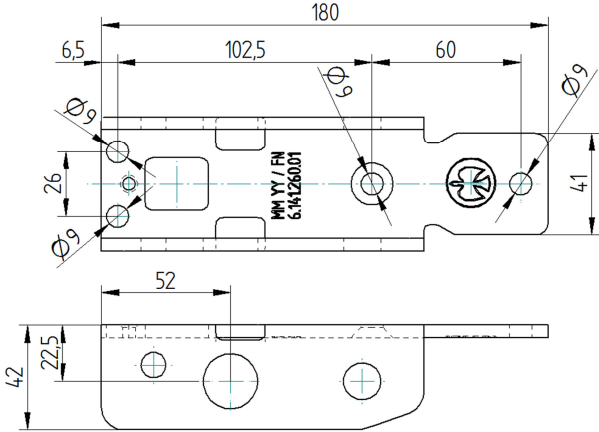
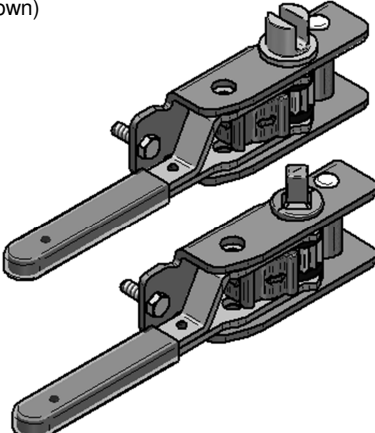
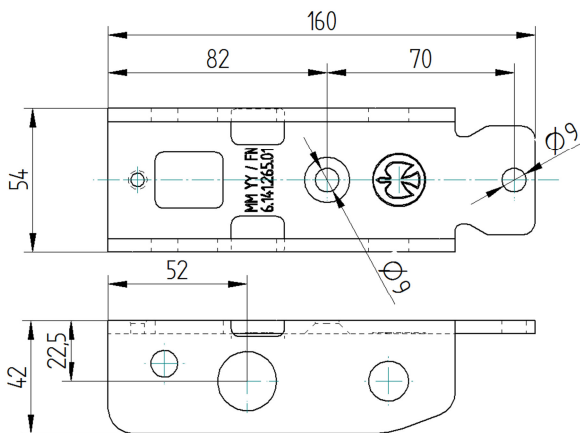
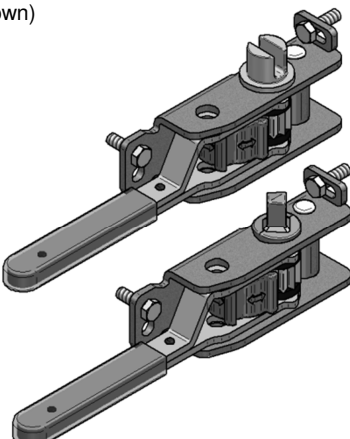
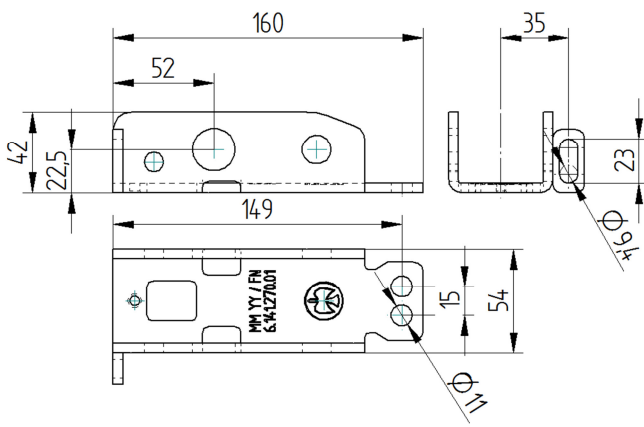
The pre-tensioned tarpaulin is automatically secured by a blocking element in each detent position.

The detent position is reached every 30°.

Tension is released from the tarpaulin by shifting the ratchet pawl. A cam keeps the blocking element in the untensioned position, thus allowing the expansion shaft to run free.

It continues to run free until you swivel the hand lever back to the locked position.

#### 4. System overview - housing types

<p>6.141.260.00 version left, with squared shaft 6.141.261.00 version right, with squared shaft 6.141.262.00 version left, with slotted shaft 6.141.263.00 version right, with slotted shaft (left version shown)</p>	<p>Type: H</p>
	
<p>6.141.265.00 version left, with squared shaft 6.141.266.00 version right, with squared shaft 6.141.267.00 version left, with slotted shaft 6.141.268.00 version right, with slotted shaft (left version shown)</p>	<p>Type: P</p>
	
<p>6.141.270.00 version left, with squared shaft 6.141.271.00 version right, with squared shaft 6.141.272.00 version left, with slotted shaft 6.141.273.00 version right, with slotted shaft (left version shown)</p>	<p>Type: A/T</p>
	

## 5. General information

Factory drawings are not an integral part of these installation instructions and can be requested by telephone or email.

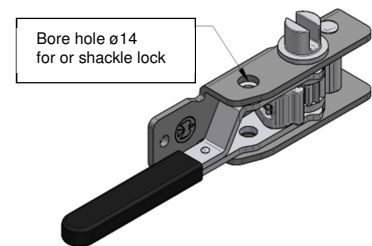
Since the tarpaulin is tensioned or untensioned in the bottom corner, the expansion shaft and the bearing of the expansion shaft must be configured by the superstructure manufacturer so that no jamming or deflections will occur.

The HESTAL *TensionMaster* IV is configured for a maximum torque of  $M_d = 150\text{Nm}$  on the expansion shaft and a max. manual force of  $F_{\text{max.}} = 35\text{ daN}$ .

Any modification to the HESTAL *TensionMaster* IV or deviation from the installation or operating instructions shall render any form of liability null and void!

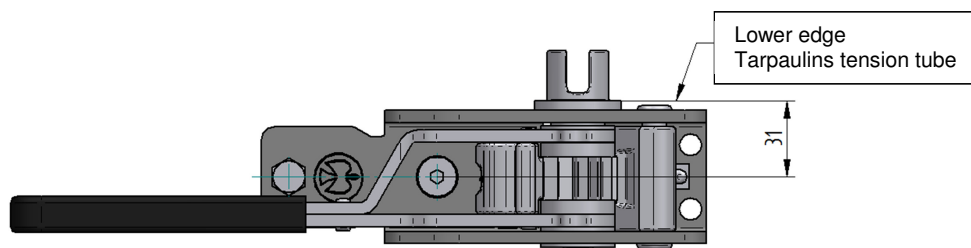
The HESTAL *TensionMaster* IV is screwed to the corner pillar below the side tarpaulin by the superstructure manufacturer.

For locking with a shackle lock the marked hole is provided.



## 6. Mounting

Bore holes must be drilled into the outer frame in the hole intervals shown (see System overview) in order to accommodate the HESTAL *TensionMaster* IV.



The HESTAL *TensionMaster* IV is bolted to the outer frame as follows:

Type: H : 1x hexagon screw M8, DIN 933 and 1x countersunk head screw with hexagon socket M8, DIN 7991

Type: P : 1x hexagon screw M8, DIN 933 and 1x countersunk head screw with hexagon socket M8, DIN 7991

Type: A/T: 1x hexagon screw M8/M10, DIN 933 and 1x hexagon screw M8, DIN 933

To do this, align the HESTAL *TensionMaster* IV at an angle to the outer frame and the expansion shaft and establish the screw connection.

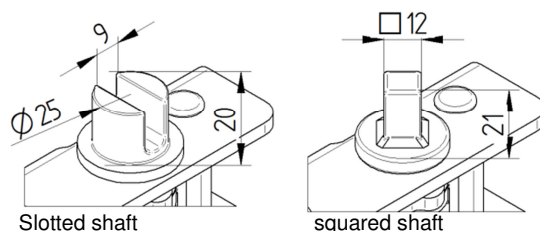
All mechanical connecting elements must be tightened with the corresponding tightening torque (e.g. M8; 8.8 at 50 Nm).

The connecting elements must be retightened after 500 km and 5000 km as well as in six-month intervals.

Screw length depends on the superstructure's vehicle frame wall strength and must be chosen by the vehicle manufacturer.

Mechanical connecting elements subject to dynamic loads must be secured accordingly by the customer! The superstructure manufacturer is responsible for thread safety.

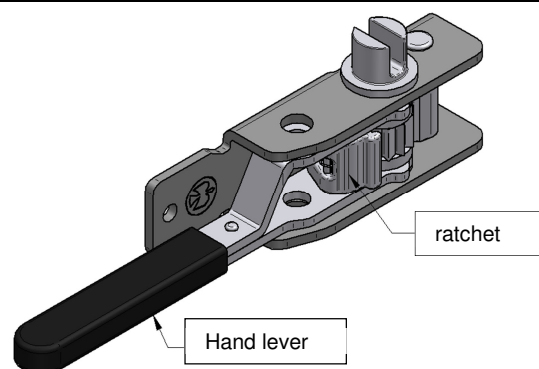
## 7. Dimensions of the version for the tarpaulin bracing tube



## 8. Function of singlehanded operation

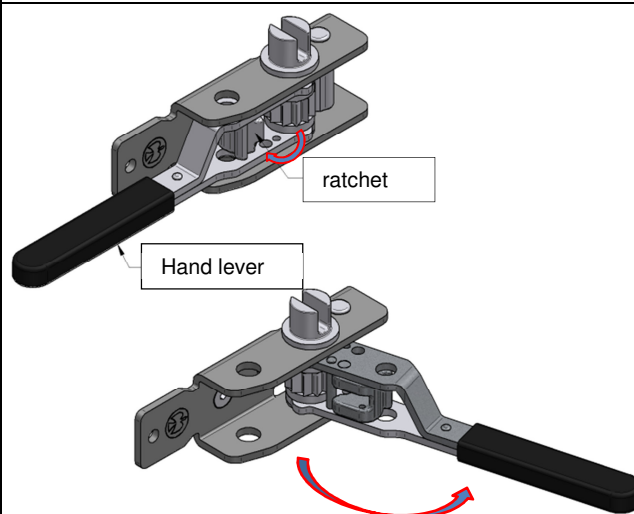
### Tensioning:

- Grab the hand lever on the handle (the ratchet pawl is swivelled to the front and engages in the gear wheel)
- Moving the hand lever back and forth turns the tarpaulin bracing tube and tensions the tarpaulin.
- After being tensioned, the hand lever must be placed against the vehicle!



### Untensioning:

- Swivel the ratchet pawl to the rear
- Press the hand lever forwards up to the stop (this presses the pawl out of the sprocket and the tarpaulin is untensioned).
- Pull the hand lever back to the rear and press the ratchet pawl forwards to the sprocket.
- The hand lever is now secured again.



## 9. Important information

Compliance with the installation instructions will ensure the proper functioning of the HESTAL *TensionMaster IV*.

For reasons of functional, traffic and occupational safety, it is permissible to combine only the HESTAL parts shown here.

When properly installed, the HESTAL *TensionMaster IV* complies with the DGUV Regulation 70 "Vehicles"

### PLEASE NOTE:

The information presented here is based on data considered to be correct at the time of writing these installation instructions. However, no explicit or implicit warranty or claim is made ensuring or confirming the correctness or completeness of the data and safety information. No responsibility can be assumed for material damage or physical injury resulting from incorrect use or failure to comply with recommended application methods.

## 10. Checklist for final inspection

### Assembly

- ☐ Only HESTAL genuine parts were used
- ☐ Desired version used for the suitable bracing tube.
- ☐ Suitable screws were fitted at the corresponding torque and with thread locking agent
- ☐ Regulations and directives were observed

### Function

- ☐ The side tarpaulin can be tensioned
- ☐ The side tarpaulin can be untensioned
- ☐ Neutral position of the expansion shaft is available
- ☐ Function check performed and faultless (no clamping, etc.)

### Information

- ☐ Operating instructions 6.141.260.48 enclosed with vehicle documents
- ☐ Driver has received training in operation
- ☐ Vehicle owner or user has been informed about maintenance and inspection requirements

Vehicle designation/type: \_\_\_\_\_

Chassis No. \_\_\_\_\_

Date of registration \_\_\_\_\_

This checklist is used to inspect the assembly and function of our product before commissioning

\_\_\_\_\_  
Signature of the tester

\_\_\_\_\_  
Place and date of the final inspection and test