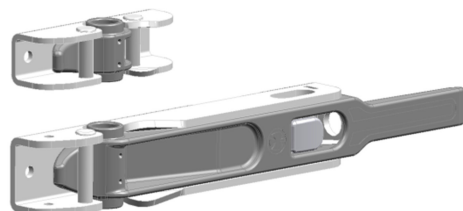


Installation instructions for the HESTAL espagnolette lock system **Lockmaster 709.18**

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.

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1. General information

The HESTAL espagnolette lock system 709.18 is configured for 25 mm and 30 mm rear portal doors with a pivot point distance of 22 +1 mm.

The locking system is designed for a galvanised espagnolette $\varnothing 18 \text{ h9}$.

The clamping element may be used in connection with the accompanying counterholder.

The number of necessary sealings per portal door must be determined by the structure manufacturer depending on portal height and portal load.

Alterations to the locking system or deviations from the installation instructions will void all liability claims.

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)

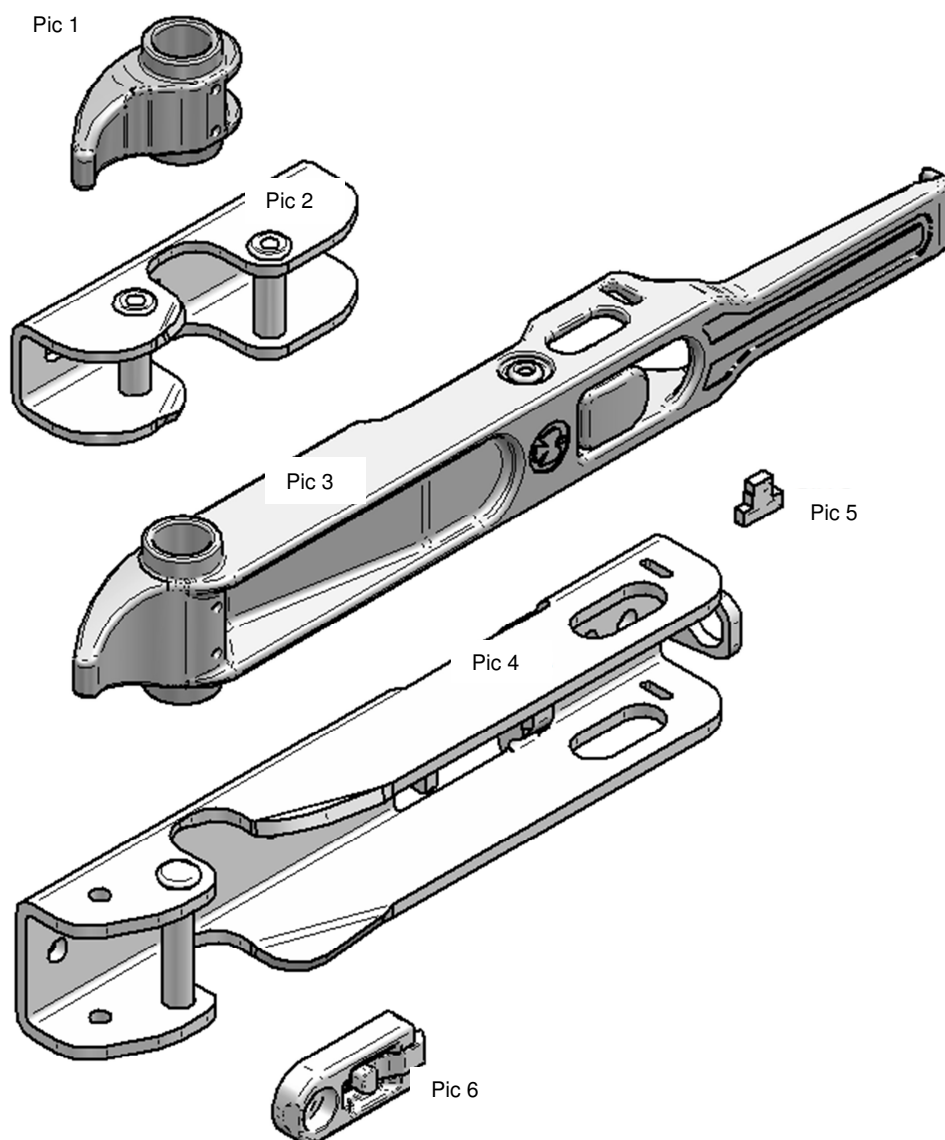
VDI Directive 2700 "Load Securing on Road Vehicles"

Vehicle manufacturer assembly guidelines

The "Technical Customs Guideline" of the ZKA (Customs Criminal Investigation Office) for the preparation for customs sealing

3. System overview

Picture	Designation	Material	Surface	Article no.
1	Clamping cam, leading	Spheroidal casting/steel casting	Hot-dip galvanised	6.141.121.27
2	Counterholder, upper	Steel sheet	Hot-dip galvanised	6.141.695.55
3	Clamping lever, without cyl. lock	Spheroidal casting/steel casting	Hot-dip galvanised + powder enamelled	6.141.233.51
	Clamping lever, with cyl. lock	Spheroidal casting/steel casting	Hot-dip galvanised + powder enamelled	6.141.233.11
4	Counterholder, lower	Steel sheet	Hot-dip galvanised	6.141.234.50
5	Customs hook (to be welded in after)	Steel sheet	Hot-dip galvanised	6.141.234.09
6	Door fix	Steel casting	Hot-dip galvanised	6.141.719.00



4. Installation

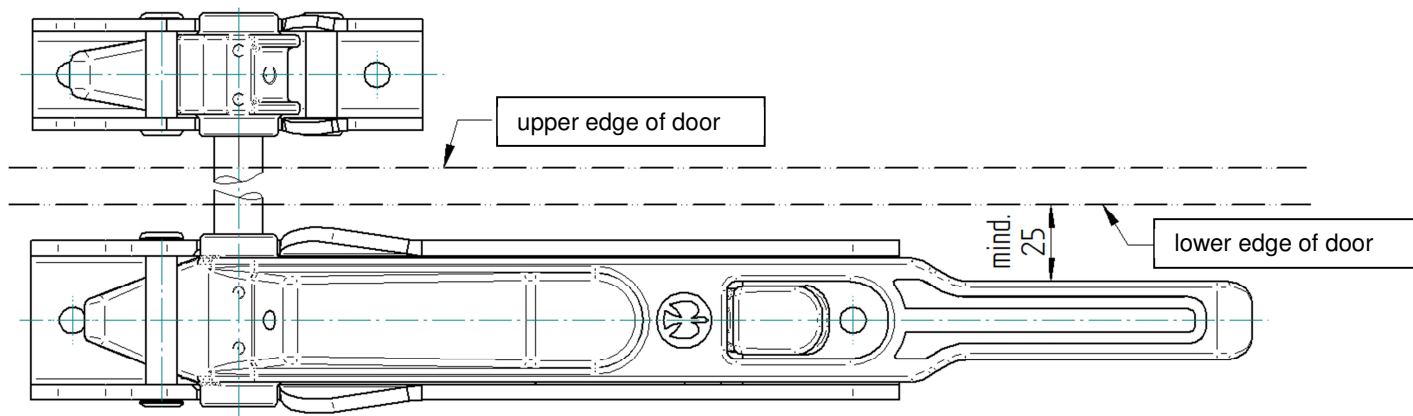
4.1 General installation information

In order to safeguard against damage to surface-protected components the following should generally be observed:

>>For driving the clamping lever and clamping cam onto the espagnolette, a plastic hammer should always be used!<<

It must absolutely be ensured that, as soon as a part (clamping lever or clamping cam) is connected with the espagnolette, this module is first pushed into the door before the second part (clamping lever or clamping cam) is affixed onto the espagnolette.

For the fastener fittings, a finger clearance of > 25mm between the clamping lever and the lower door edge should be maintained.



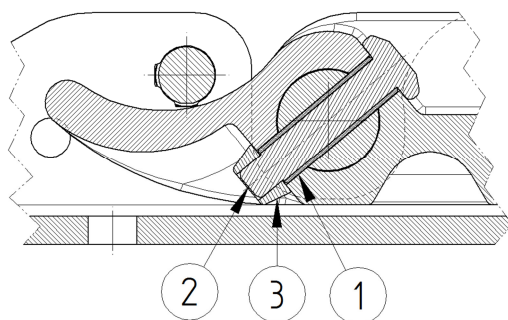
Initial tension (according to customer requirement):

Depending on door height, espagnolette material and type of seal, the clamping lever is to be set to the clamping cam at a certain angle, in order to produce initial tension on the clamping cam in the locked position.

4.2 Attaching clamping lever/clamping cam to espagnolette

For the clamping lever and the clamping cam there are 3 possible attachments to the espagnolette provided.

4.2.1 Connection by means of locking bolt system (satisfying customs requirements)



The components for this attachment method are available as accessories (one set per espagnolette)

Item	Quantity	Designation	Dimension	Drawing No.	Attachment set
1	2	Roll pin	Ø 8 x 26	6.141.680.01	6.141.608.00
2	2	Locking ring bolt	Ø6.5	6.141.680.02	
3	2	Locking ring, flat	Ø6.5	6.141.608.03	

Proposal for assembling the clamping lever with the espagnolette:

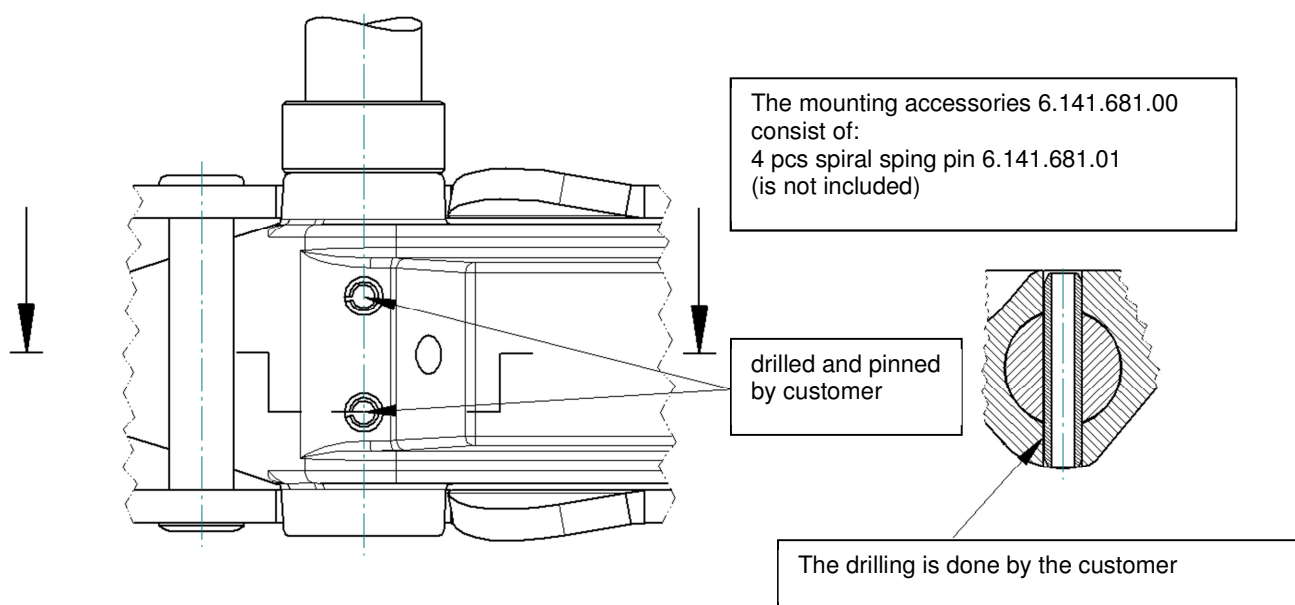
- Drive the clamping lever onto the espagnolette until the front side of the espagnolette is at least aligned with the underside of the clamping lever.
- By means of a boring template, the cross-hole for the roll pin is $\varnothing 8.0$ mm H12, drilled through both parts in a single process (centre punching available).
- Remove burr.
- Protect the bore hole against corrosion with cold zinc spray.
- Drive in roll pin 8x26 (with longitudinal slot transverse to espagnolette).
- Put the locking ring bolt through the roll pin from the front side.
- Insert the locking ring on the locking ring bolt from behind and rivet with a setting tool.

Proposal for assembling the clamping cam with the espagnolette:

- The same process as for the clamping lever with espagnolette.

If a desired initial tension of the clamping cam is necessary, the arrangement of clamping lever and clamping cam in the locked position of the lock is to be considered.

4.2.2 Connection by means of spiral roll pins $\varnothing 6 \times 30$



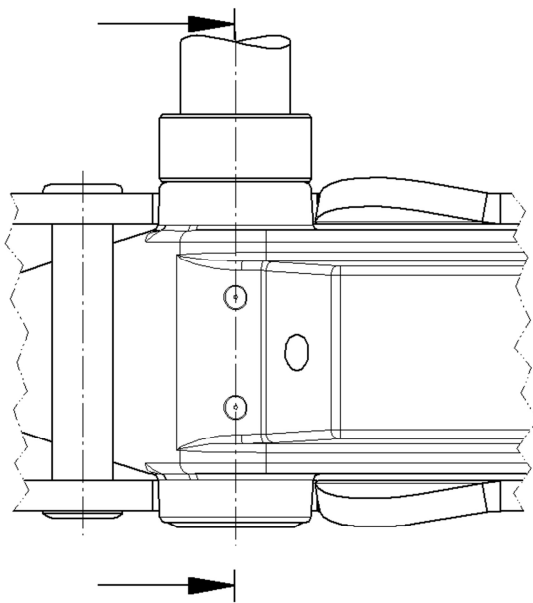
Proposal for assembling the clamping lever with the espagnolette:

- Drive the clamping lever onto the espagnolette until the front side of the espagnolette is aligned with the underside of the clamping lever.
- By means of a boring template, both bore holes on the face (bore hole diameter 6.0mm H12) for the heavy spiral roll pins 6x30mm (DIN EN ISO 8748) are drilled through both parts in a single process (centre punching available).
- Remove burr.
- Protect the bore hole against corrosion with cold zinc spray.
- Drive both spiral roll pins flush to the rear outer surface of the clamping lever. Mount with the slot diagonal to the espagnolette.
- Caulk bore hole on the front side.
(This way it is not possible for the roll pins to become loose through the front).
With cold zinc spray, protect the surface against corrosion.

Proposal for assembling the clamping cam with the espagnolette:

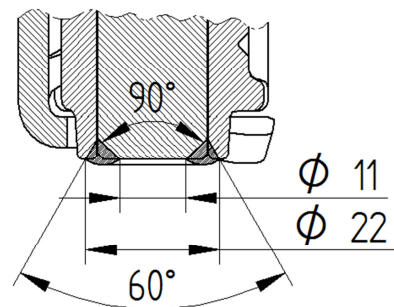
- The same process as for the clamping lever with espagnolette.

If a desired initial tension of the clamping cam is necessary, the arrangement of clamping lever and clamping cam in the locked position of the lock is to be considered.

4.2.3 Connection by means of welding (satisfying customs requirements)

Weld seam execution according to DIN EN ISO 13920-BF
>UTP 8 is recommended as welding rod electrode for the cold welding

Weld preparation and welding is done by the customer

**Proposal for assembling clamping lever beneath the espagnolette:**

- Using a counterbore drill, a 2x60° counterbore is made on the clamping lever, on the side to be welded. A 4x45° chamfer is to be made on the espagnolette.
- The zinc coating must be fully removed from the surfaces to be welded.
- Weld seam preparation according to DIN EN 29692.
- Remove burr.
- Drive the clamping lever onto the espagnolette until the front side of the espagnolette is aligned with the underside of the clamping lever.
- Welded entirely about the circumference
- Then protect the welded area against corrosion with cold zinc spray.

Proposal for assembling the clamping cam with the espagnolette:

- The same process as for the clamping lever with espagnolette.

If a desired initial tension of the clamping cam is necessary, the arrangement of clamping lever and clamping cam in the locked position of the lock is to be considered.

4.3 Screw fastening of the lower and upper counterholders on the rear frame

The length of the fixing screws must be selected by the superstructure manufacturers depending on the vehicle frame wall thickness as well as the expected total load on the body.

The screw connections should be secured against unscrewing.
The superstructure manufacturer is responsible for the thread lock.

4.4 Assembly process for the lower and upper sealings on rear frame

In general, the following procedure applies for the assembly:

1. Loosen each lower and upper counterholder on the lower end plate and screw onto the cross roof beams.
2. Lock doors in the two counterholders with the clamping elements.
3. Position lower counterholder.
 - The freely accessible screw on each lower counterholder is to be screwed tightly.
 - Carefully open doors.
 - Tightly screw all further screws.
 - Close doors again.
4. Position upper counterholder.
 - Tightly screw the freely accessible screw on each upper counterholder
 - Carefully open doors.
 - Tightly screw all further screws.
 - Close doors again.
5. Inspect the ease-of-movement of the door locking system on both doors.

4.5 Functional check

- Close the door by means of clamping lever.
- Guide clamping lever catch nose behind the counterholder drive pin when swinging in.
- Swing clamping lever into locked position.
- Lock latches under the bridge of the counterholder.
- Along with the acoustic engaging sound, the simultaneous visually locked position of the safety button to the clamping lever is to be observed (visual check).
- Dust and dirt residue, as well as icing, should be regularly cleared from viewable area, so that a safe closing of the lock is always guaranteed.



Compliance with the installation instructions will ensure the proper functioning of the HESTAL espagnolette lock system 709.18.

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

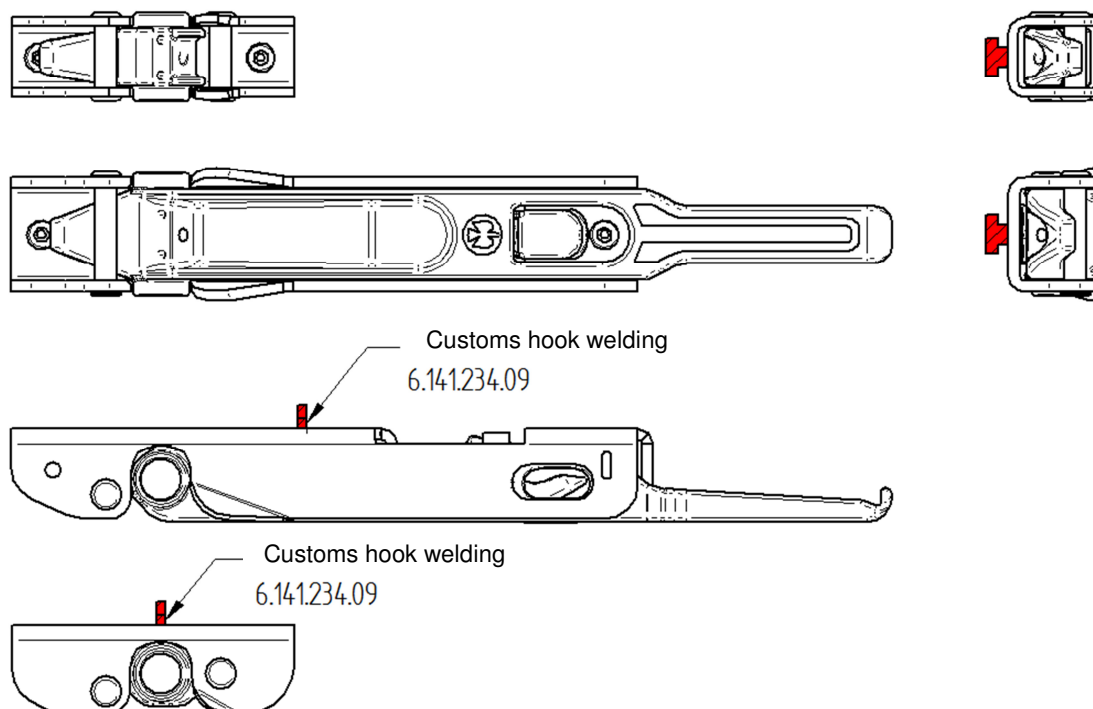
When properly installed, the espagnolette lock corresponds to
DGUV Regulation 70 "Vehicles"

5. Customs-appropriate version

For the customs model, a customs hook (6.141.234.09) is welded onto the upper and lower counterholders.

The customs hook can be ordered separately.

The fastening sets for espagnolettes are identical for both versions.

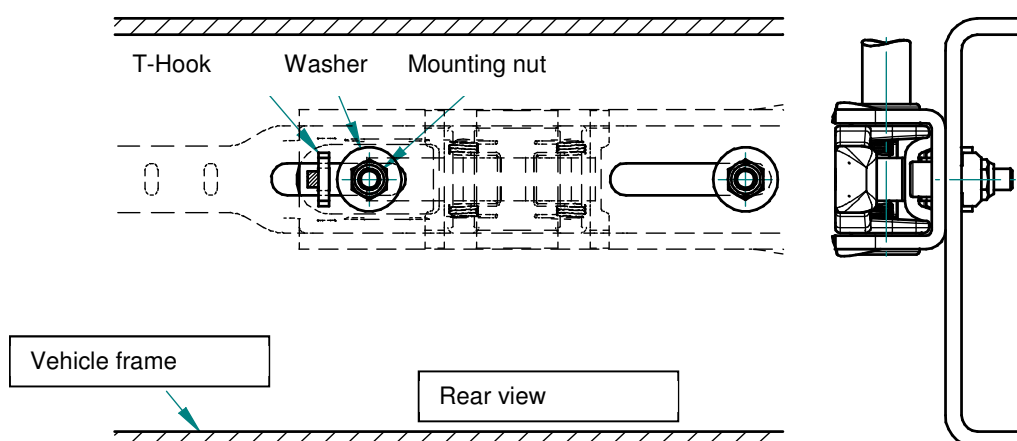


As a rule, two locks per door leaf are fitted by the customer for double rear doors, i.e. a total of 4.
For doors with centre overlapping door rabbets, the lock in the centre of the customs model vehicle is intended for the out-lying door, meaning only one of the total four locks.

The illustrated mounting example is customs compliant.

Clamping element/espagnolette assembly with locking ring bolt system (see 4.2.1.)

Assembly of lower and upper counterholder on the vehicle frame or roof profile



The customs T-hook is welded to the counterholder on its underside.

In this customs version, the attachment of the lower counterholder is possible and permitted with three or only 2 fixing screws M8 DIN 912 / DIN 931 (min. 8.8 quality).

The upper counterholder is attached with 2 screws M8 DIN 912 / DIN 931 (min. 8.8 quality).

The counterholders are attached during assembly to the rear frame using a punch-out similar to a keyhole.

Alternatively, a simple slot hole in the end profile is also possible.

The counterholders are rotated by 90° during assembly and inserted into the slot hole in the end profile. Next is a 90° rotation back.

Through the arrangement and configuration of the locking ring bolt system, an attachment is made satisfying customs requirements.

All stainless steel drive pins in the counterholders have a drive head on both sides.

Using a special production method, the rivets cannot be removed on the wobbled side in a customs-protected installation (e.g. after grinding the wobble rivet head).

This way a manipulation of the rivets after the fact is not possible.

During assembly it is to be noted that the installation distance between lower door edge and the upper edge of the lower counterholder is noticeably smaller than the length of the drive pin in the counterholder.

The same applies to the the upper lock mounting example.

Using this system is fully customs-compliant.

(Approved by the Zollkriminalamt (German customs investigation bureau) Cologne, 09 September 2003)

6. Holding devices for rear portal doors

To comfortably and safely unlock the roof beams of sliding roofs, for example in tight spaces on a site, the HESTAL espagnolette lock system 709.18 offers two possibilities for securely holding the rear portal doors open with an opening angle of ~ 20°.

1) by means of plug bolts through the lower counterholder

alternatively:

2) with a semi-automatic door holding device (door fix 6.141.719.00)

This patented sliding bolt lock can be easily retrofitted in the lower counterholder or installed immediately.

Generally when assembling the door fix, please note that only a flat head bolt M8 DIN 6912 in 10.9 quality is used for the attachment!



Attention!!

If screws with higher heads are used, the clamping lever no longer securely closes in the lower counterholder.

If screws with lower material quality are used, the stability of the lower door locking system is no longer assured under high internal load pressure.

In both cases, failure to follow the instructions voids the warranty from HESTAL.

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.

7. Checklist for final inspection by the superstructure manufacturer

Assembly

General

- ☐ Work was done with original HESTAL factory drawing and parts list.
- ☐ Only HESTAL genuine parts were used.
- ☐ Regulations and directives were observed.
- ☐ Clamping lever/clamping cam are at least flush with the end of the espagnolette.
- ☐ Positioning from lower and upper counterholder to clamping lever and clamping cam checked.

Attaching clamping cam Point 4.2.1

- ☐ Fixed connection of clamping lever/clamping cam with espagnolette.
- ☐ Check that roll pin 8x26 is installed. This must be regularly checked, as otherwise the tight seat of the clamping lever/clamping cam connection with the espagnolette is not assured.
- ☐ Locking ring bolt is inserted from the front side of the clamping lever/clamping cam.
- ☐ Locking ring is available and set on the back of clamping lever/clamping cam.
- ☐ Corrosion protection applied to the outbound end of the locking ring bolt.

Point 4.2.2

- ☐ Fixed connection of clamping lever/clamping cam with espagnolette.
- ☐ Bore holes caulked after assembling the roll pins on the front locking side.
- ☐ Corrosion protection applied.

Point 4.2.3

- ☐ Welding properly carried out.
- ☐ Corrosion protection applied.

Function

- ☐ During closing process, the clamping lever and clamping cam grip without issue behind the retaining bolts in the lower and upper counterholders.
- ☐ Securing opening and closing without issue.

Information

- ☐ The associated operating instructions are enclosed with vehicle documents.
- ☐ The vehicle owner or user has been informed about maintenance and inspection requirements.
- ☐ The vehicle owner or user has received training in operation.

Vehicle designation/type:

Chassis No.:

Date of registration:

This checklist is used as a final inspection of the assembly and function of our product before commissioning.

.....
Signature of the tester

.....
Place and date of the final inspection and test