

# Operating instructions

## for the HESTAL roof height adjustment system

### *LiftMaster 771N (version from January 2019)*

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## 1. General information

The HESTAL *LiftMaster 771N* is a mechanical-hydraulic device for raising and lowering commercial vehicle roofs in order to utilise the full volume of the loading compartment and facilitate the loading and unloading procedure. The HESTAL *LiftMaster 771N* is equipped with a lifting arrest for driving mode with different roof positions.

## 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. Important information

**Any modification to the HESTAL *LiftMaster 771N* or deviation from the operating instructions shall render any form of liability null and void!**

Compliance with the operating instructions will ensure the proper functioning of the HESTAL *LiftMaster 771N*.

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

**Driving with a lifted roof is only permissible using the lifting arrest and up to max. 250 mm lift depending on the version! The central pillars must also be pitched corresponding to the selected roof position.**

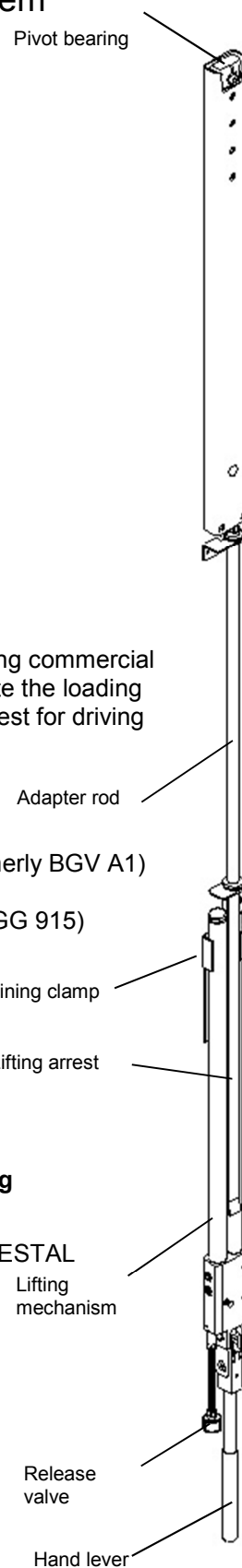


Figure 1

## 4. Technical description of the system

The HESTAL *LiftMaster* 771N is used to raise the roof of a commercial vehicle superstructure at each corner in any increments up to 550 mm, by means of a manually operated single hydraulic. The drive is achieved manually using a swivelling hand lever in several single strokes, with up to 20 mm lifting of the roof per single stroke. The lifted roof is secured in each position.

Driving mode with vehicle roof raised up to 250 mm is possible using the lifting arrest. The maximal possible driving position depends on the type of LiftMaster used.

**However, the max. permissible total vehicle height of 4.0 m must not be exceeded!**  
**(See StVZO §32 Para. 2)**

The roof is lowered by opening the release valve.

When in driving mode the fully lowered roof is in positive-fit position on the guiding channel of the HESTAL *LiftMaster* 771N, when driving with the roof lifted, the roof weight rests on the lifting arrest and retaining clamp. This relieves the hydraulic pump.

## 5. Versions

**With lifting arrest up to 250 mm: *LiftMaster* 771N, 550 mm lift - 6.810.221.00**  
**Plug-in unit in 50mm steps +50mm, +100mm, +150mm, +200mm, +250mm**

**With lifting arrest up to 240 mm: *LiftMaster* 771N, 550 mm lift - 6.810.231.00**  
**Plug-in unit in 60mm steps +60mm, +120mm, +180mm, +240mm**

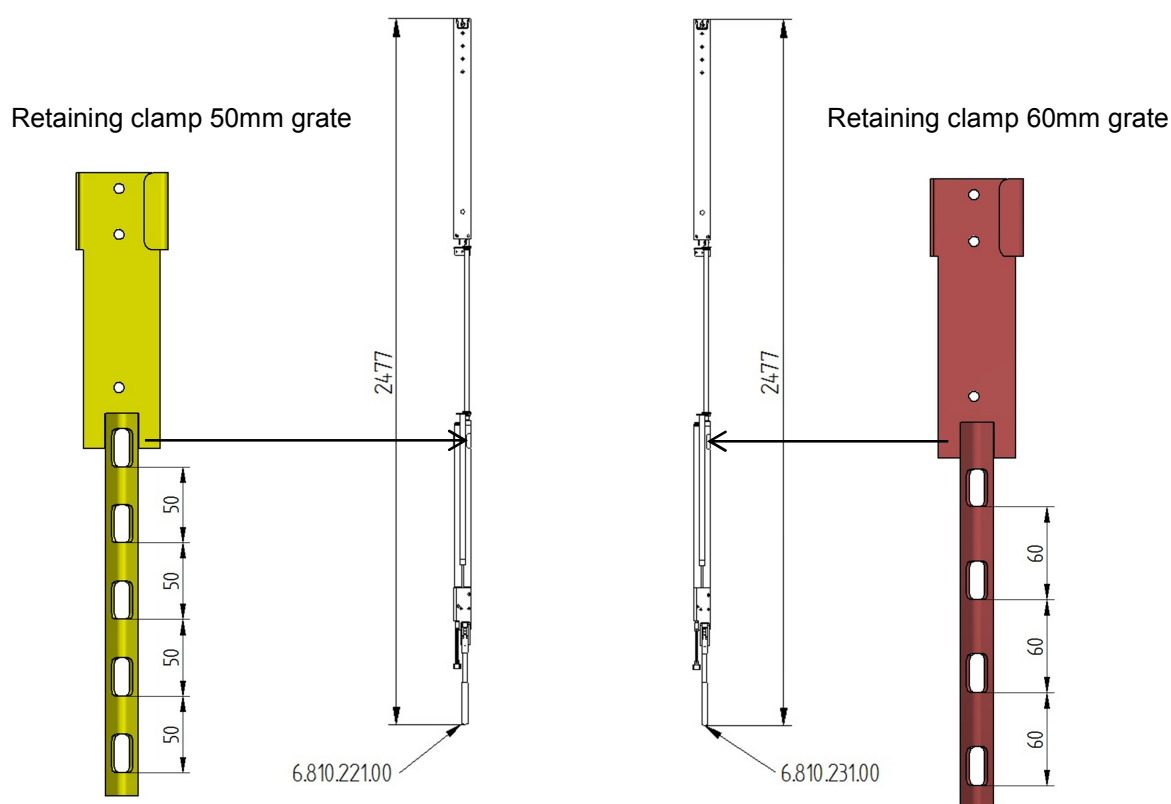


Figure 2, Overview of the two LiftMaster versions

## 6. Raising and lowering the vehicle roof

### Raising:

Close release valve. Pull the hand lever from the corner pillar and pump with up and down movements (see Figure 3). Pumping movements lift the roof. Each single stroke is max. 20 mm, but can be interrupted at any time! Then swivel the hand lever back and pull it towards your body again. This process can be repeated until the desired roof position or the maximum roof lift is reached.

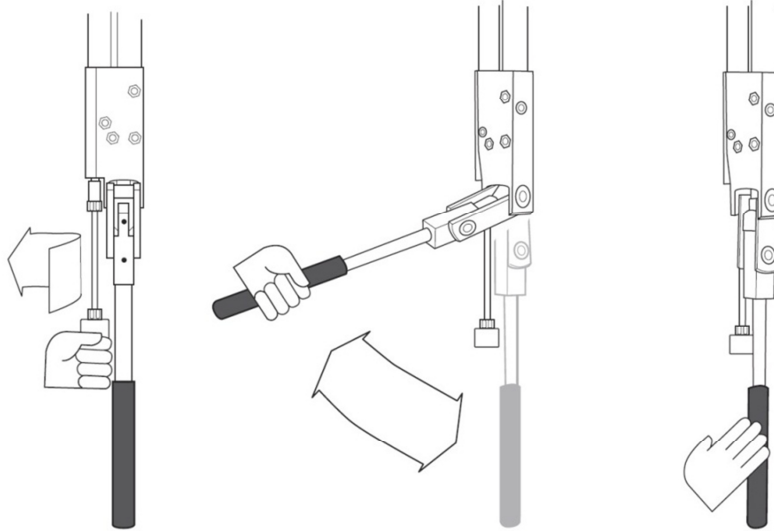


Figure 3

After reaching the maximum roof lift, the hand lever can no longer be moved any further, i.e. no additional hand lever swivelling movements can be made.

**After completing the raising process, the hand lever should be swivelled back and is inserted easily into the corner pillar!**

### Lowering:

Open release valve (see Figure 4). The roof is now automatically lowered. The more the release valve is opened, the faster the roof is lowered. It is recommended to open the release valve by a maximum 2 revolutions.

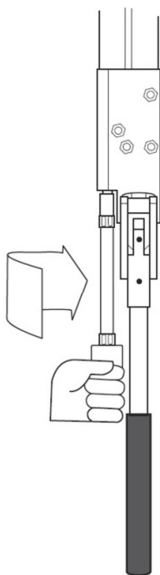


Figure 4

## 7. Adjusting the lifting arrest

The lifting arrest can be used to pre-select the lowered position of the vehicle roof and thus increase the inner height clearance of the loading compartment by min. 50 or 60 mm up to max. 250 or 240 mm. No tool is required for the adjustment.

Open hand lever and lift vehicle roof. Pull the lifting arrest forward slightly at the bottom end and position at the desired location inside the retaining clamp by pushing it up.

The plug-in heights reached at each respective time can be found on the stroke scale pasted to the cylinder (see Figure 5).

The hook at the end of the lifting arrest locks into the desired drilling pattern in the retaining clamp. After engaging the lifting arrest, the release valve is opened and the vehicle roof lowered to the desired position. The release valve can remain open when driving with a lifted roof.

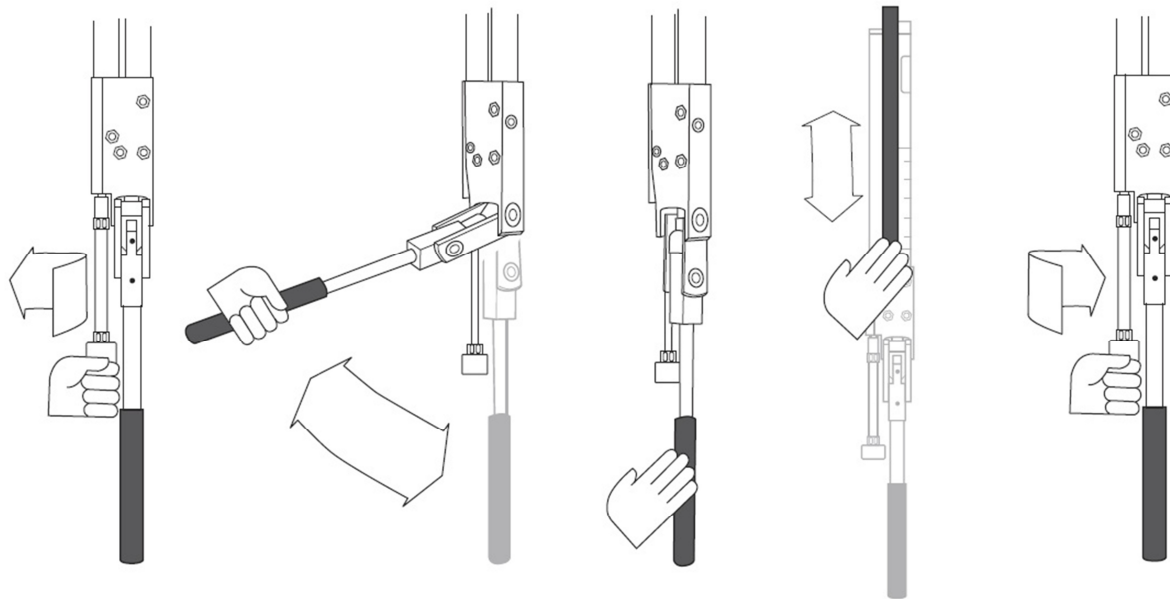


Figure 5

## 8. Maintenance

The HESTAL *LiftMaster* 771N must be serviced periodically depending on use and time, but at least once a year (lubrication, possible replacement of wear parts).

Only HESTAL original parts may be used for this.

See also DGUV Regulation 70 "Vehicles" as well as DGUV Rules 109-009 "Vehicle Maintenance".

If, despite careful manufacturing and test procedures, the product malfunctions, then repairs should only be done by the vehicle manufacturer or qualified personnel.

The hydraulic pump is filled with Castrol Hyspin 4004 (Vitamol 4004) oil. If properly fitted and used, it is usually not necessary to top up the oil. Should the system nevertheless not function due to a lack of oil, it may only be topped with Castrol Hyspin 4004 (Vitamol 4004) oil.

If the vehicle roof can no longer be raised or the vehicle roof does not stay in the raised position, the lifting mechanism module (single hydraulic) is defective. This wear part can only be replaced completely.

Proceed as follows for full replacement of parts:

Secure lifting mechanism module to the corner pillar with at least a screw clamp to prevent it from falling down. Pull out the plastic pin between the adapter rod and the guiding channel.

Loosen the fixing screws from the lifting mechanism module (3 pieces) from the loading compartment side and remove.

Loosen screw clamps - **Caution:** the lifting mechanism module may fall down - and remove lifting mechanism with adapter rod. Loosen the adapter rod by twisting (right-hand thread) it off the lifting mechanism.

Mount new lifting mechanism module as described in the installation instructions 6.810.221.49.

## 9. Notes on operation

**The HESTAL *LiftMaster* 771N may only be operated by trained personnel!**  
(See DGUV Regulation 70 "Vehicles")

**An appropriate high-visibility jacket must be worn in moving traffic!**

**The rear and front doors must be opened!**

**The tarpaulin closures must be opened!**

**The side tarpaulin should only be pushed together after lifting, and spread out before lowering!**

**Telescoping central pillars should be locked in the designated attachment points on the vehicle frame.**

**Non-telescoping central pillars must be unlocked (opened) before raising the roof!**

**Additional loads such as snow, ice etc. must be removed before operation owing to the risk of slipping!**

**There must be a minimum clearance of 0.6 m above the vehicle superstructure!**

**During activation of the HESTAL *LiftMaster* 771N and when the vehicle roof is lifted, the loading compartment and opposite side of the vehicle are considered hazard zones! It must be ensured that these areas are cleared of all persons!**  
(See also DGUV Regulation "Vehicles" BGV D29 §38)



**The vehicle roof must be lowered again immediately after loading or unloading!**

**Operation of the HESTAL *LiftMaster* 771N with defective or modified components is not permitted!**

**Raising the vehicle roof with external aids (forklift, crane or similar) is not permitted!**

**Use of the HESTAL *LiftMaster* 771N to lift external loads is not permitted!**

**Before starting any journey, make sure that:**

- **the vehicle roof is lowered and correctly positioned on the rear pillars or lifting arrest!**
- **the central pillars are locked in the designated attachment points!**
- **the tarpaulin closures are closed properly!**














**Driving with raised roof is only permissible up to max. 240 mm or 250 mm lift and support use of the lifting arrest! The maximum possible plug-in unit depends on the LiftMaster version. The maximum permissible total vehicle height of 4.0 m must not be exceeded! (See StVZO §32 Para. 2)**

**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. Detailed list of the individual components

No.	Designation	Drawing No.	Scope of delivery	Figure	Note
1	Guiding channel assembly	6.810.078.59	1 piece		For attachment Ø 6.8 mm holes required
2	Adapter rod	6.810.222.01	1 piece		
3	Guiding angle	6.810.221.02	1 piece		For attachment Ø 6.8 mm holes required
4	Flange sleeve 12mm	6.500.060.01	2 piece		
5	Stop washer	6.810.221.07	1 piece		
6	Lifting arrest (hand lever assembly, complete)	6.810.221.50	1 piece		
7	Retaining clamp	6.810.221.51, yellow (50mm grid) 6.810.221.71, red (60mm grid)	1 piece		For attachment Ø 6.8 mm holes required
8	Lifting mechanism assembly (single hydraulics)	6.810.222.60	1 piece		Attachment by means of M6 screws
9	Pine tree clip	6.810.221.11	1 piece		
10	Pivot bearing	6.810.078.55	1 piece		
11	Bolt Ø12x50	6.810.085.24	1 piece		
12	Lens head screw M8x10	6.810.078.20	1 piece		
13	Roll pin Ø8x50	6.060.019.05	1 piece		
14	Adhesive label for stroke scale	6.810.221.31 (50mm grid) 6.810.231.31 (60mm grid)	1 piece	