



Art. XV201/2/3

HIGH SECURITY LOCK
FOR COMMERCIAL VEHICLES
Mod. **XVAN** version: **AUTOMATIC + MANUAL**

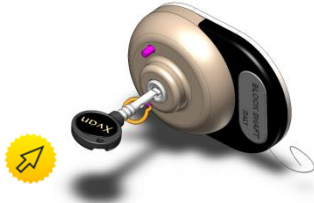




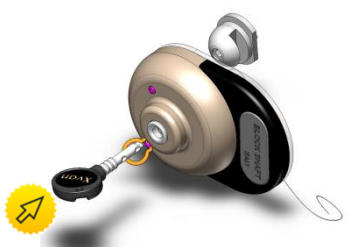
HOW IT WORKS | SLAMLOCKING OPERATION (AUTOMATIC CLOSING)

DOOR OPEN



DOOR CLOSED



Operation	Lock	Operation	Lock
Insert the key into the lock.		It is sufficient to close the door so that the lock is closed.	
Rotate the key clockwise of 90°.			
Open the door . The padlock separates from the strike plate. The witness peg gets into the armor.			
Rotate the key counterclockwise of 90°.			
Remove the key.			

It is advisable to adopt this mode of operation in case you need to have the load compartment **always protected and secure.**





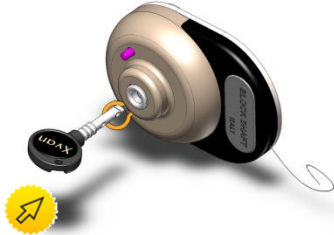
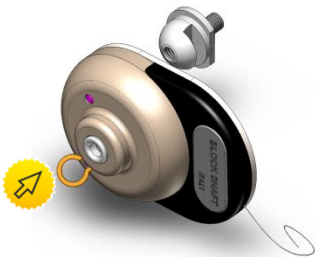
HOW IT WORKS | DEADLOCKING OPERATION (MANUAL CLOSING)

DOOR OPENING



DOOR CLOSING



DOOR OPENING		DOOR CLOSING	
Operation	Lock	Operation	Lock
Insert the key into the lock.		Close the door.	
Rotate the key clockwise of 90°. The ring falls into the armor.		Pull the closing ring. The lock is closed.	
Rotate the key counterclockwise of 90° and remove the key. The lock is open and armed, ready for closing.			
Open the door. The lock separates from the strike plate. The witness ped gets into the armor.			

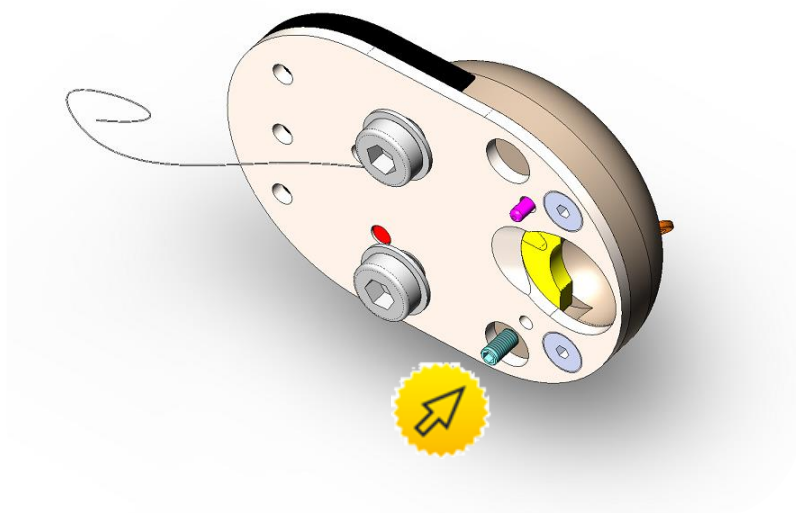
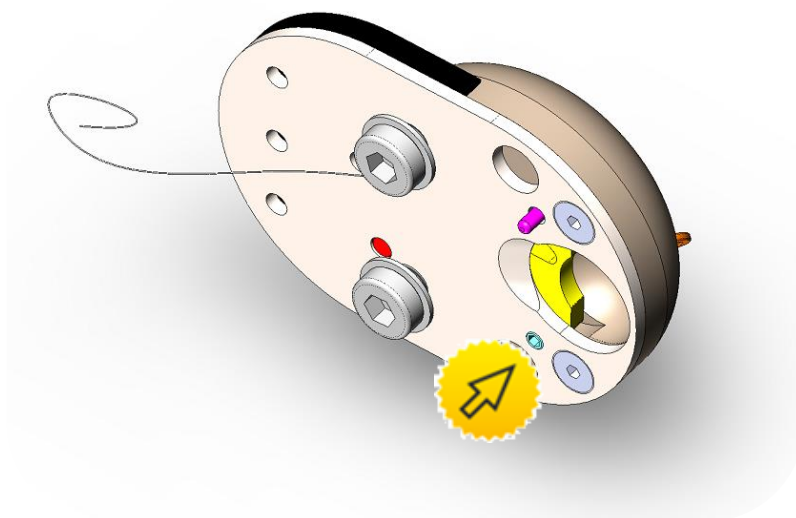
It is advisable to adopt this mode of operation if you need to have the **load compartment often open and close only when there is a potential risk of safety**

Automatic to Manual Conversion

The Xvan offers the possibility to choose the operating mode: manual or automatic.

In particular, the customer can evaluate the mode of operation that he considers most appropriate to his needs. Even after installation, it is possible to convert the mode without having to remove the lock from the vehicle door.

The padlock is supplied as default in the Automatic mode. To convert it to Manual mode with the door open, unscrew the M4 grain indicated in the image below.

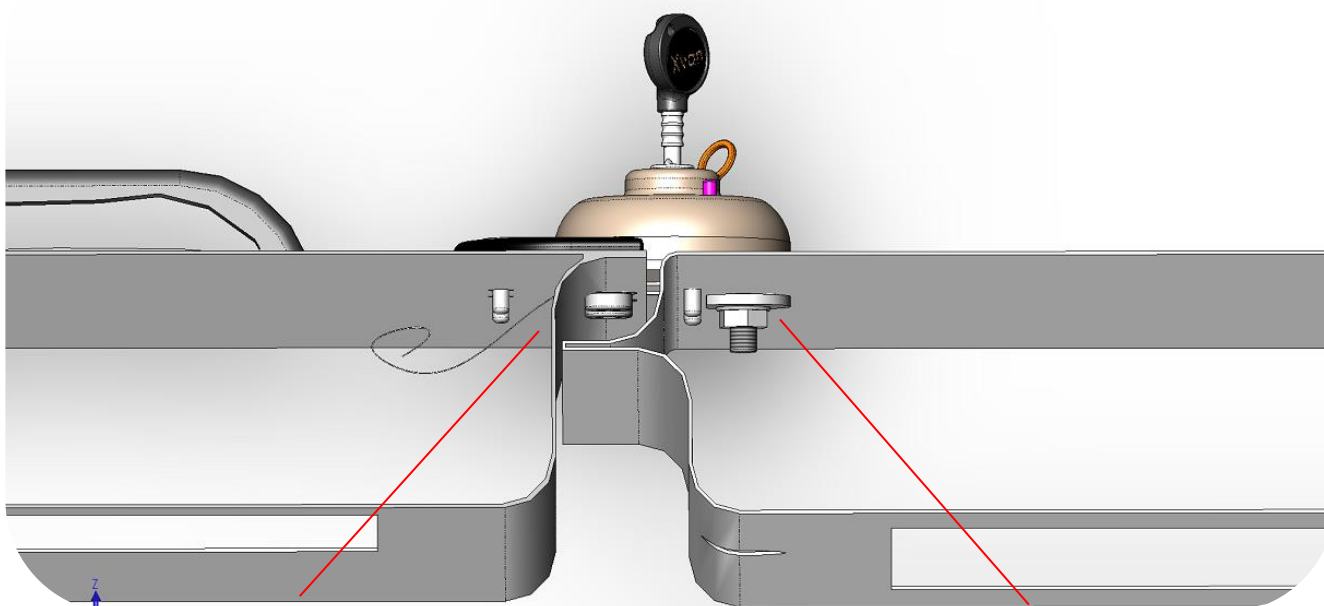
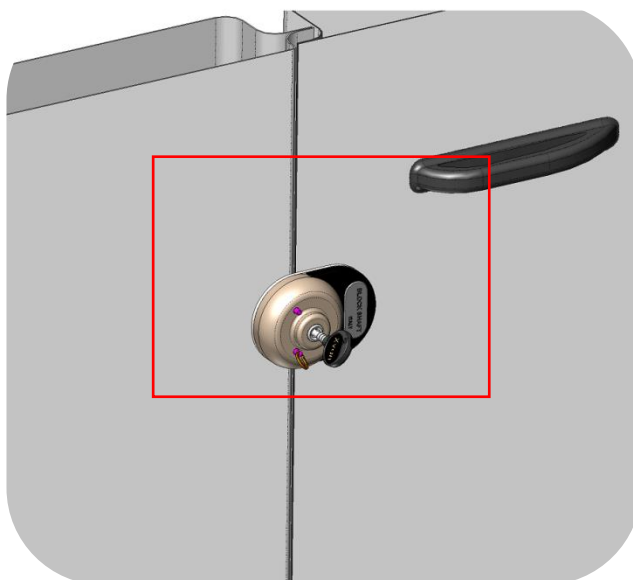


Guard the grain to perform the reverse operation.

In fact, if you wish to convert the padlock back into automatic mode, it will be sufficient to re-tighten the grain, repositioning it as originally (**on a par with the plate, applying the threadlocker for the seal**).

INSTALLATION

XVAN is a padlock to protect access to the load compartment of commercial vehicles. The padlock is applied directly on the tailgate and to be able to anchor it, it is necessary to drill some holes through the sheet of the vehicle, as shown below. The same device can be applied to both the tailgate and the right side rather than the left side. The device remains fixed on the tailgate.



Armor | Door that opens

The lock is applied on the tailgate that opens and fixed over the edge of the door using two **M8** bolts threaded directly on the armor and to **D5 stainless steel rivets**.

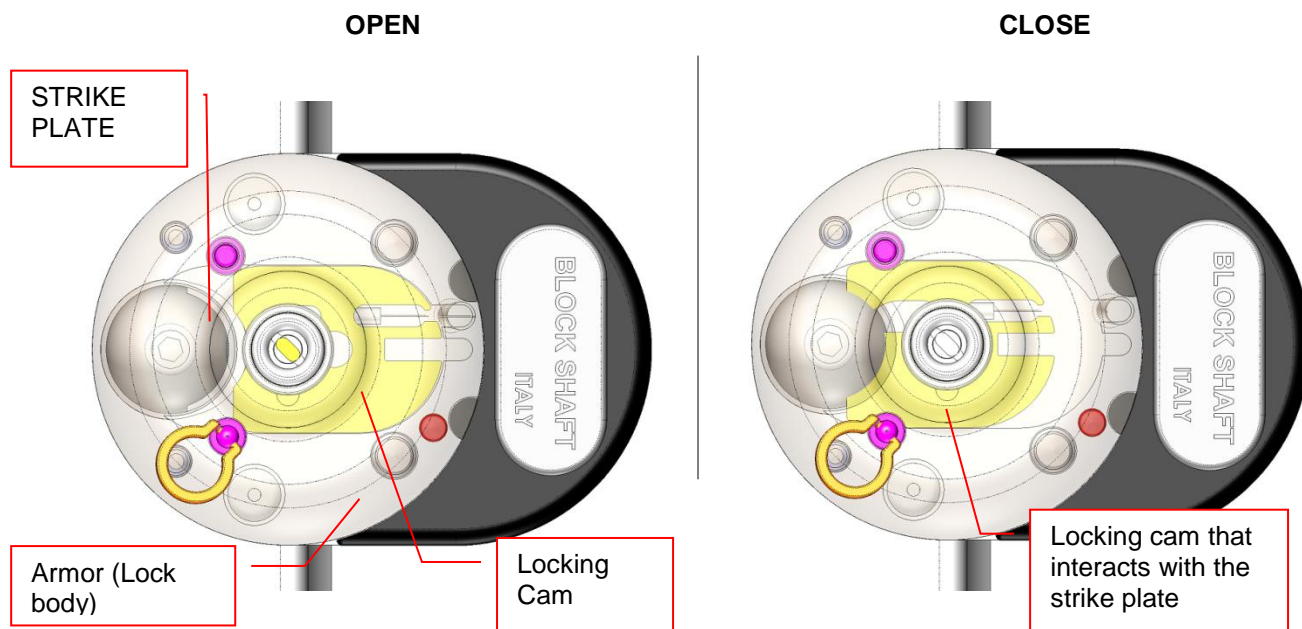
Strike Plate | Fixed door

The fixing of the strike plate is made by using **1 M8 nut**, threaded on a counterplate placed inside the door. **2 stainless steel 5mm rivets** align and fix the outer reinforcement plate.

TECHNICAL FEATURES

Locking system

The padlock uses a special elliptical slide-shaped cam with a large cross-section (latch) that interacts during closing with strike plate applied to the fixed part of the tailgate. This cam is activated indirectly. This aspect has several advantages..



When the door closes, **the cam and the strike plate do not impact**. That means the **strike plate is not compromised during the closing phase** and so the sheet metal of the door on which the strike plate is fitted, avoiding potential deformations or damages.

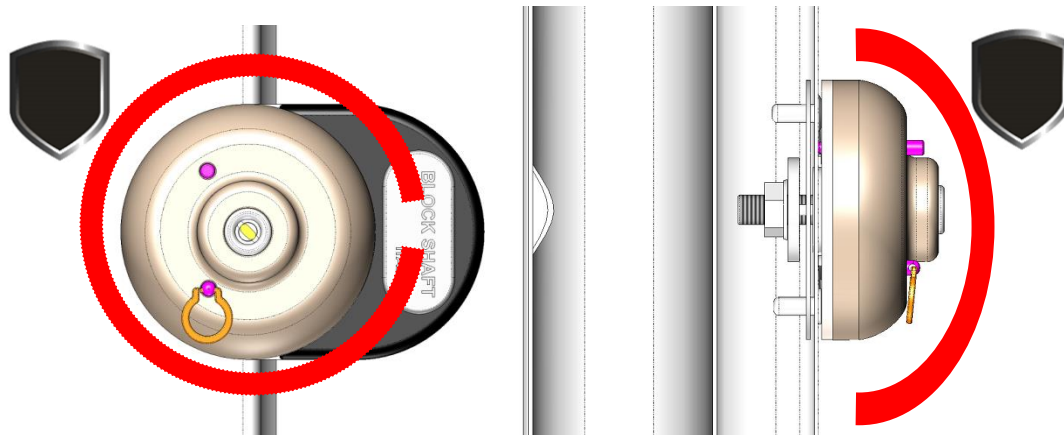
The closure takes place only after the witness peg is lifted when in contact with the closed door (in the case of the automatic version) or, always with the door closed, simply pulling the ring that protrudes from the armor (in the case of the manual version).

Secondly, the advantage of a closed door and an open lock (with an extracted key) and closing without using the key is emphasized.

In other words, you can leave the tailgate closed without protection and without having to leave the key near the lock; only when it is necessary to protect the tailgate, it can be done without having to use the key but simply by pulling the ring. This flexibility of use is well suited to a vehicle that has few openings in areas of high security risk or many openings in areas with low security risk.

Geometries

The domed shape of the padlock prevents common burglary tools (pliers, pipe wrenches, hammers and chisels, etc.) from grasping and dividing the padlock.



Moreover, thanks to the strong strike plate and the 4mm thick cam, the device is able to withstand the attacks of unconventional tools such as the 5kg hammer and the crowbar.

Each sealing member is difficult to access and therefore unassailable.

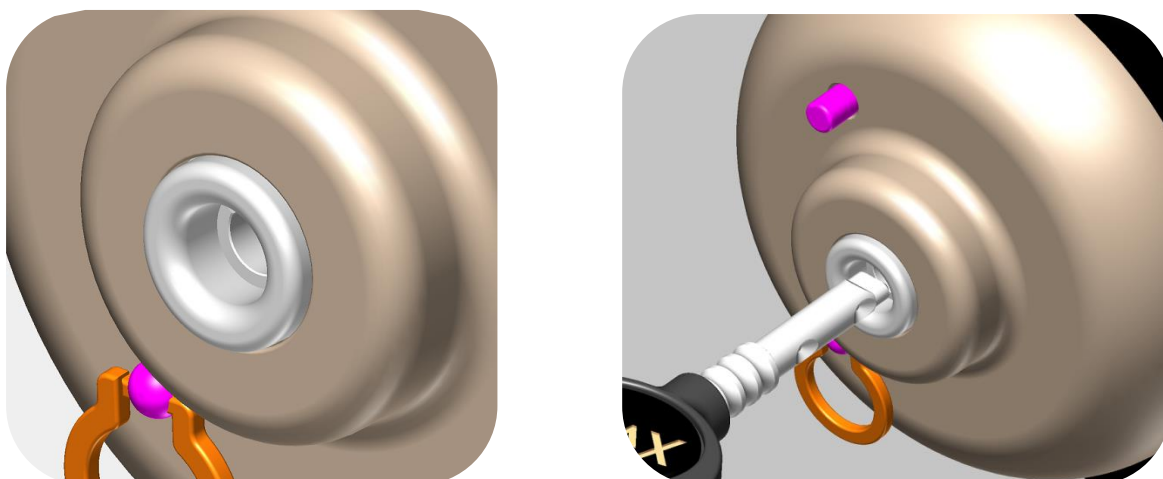
The padlock body consists of two components, both made from a solid steel bar, and subsequently machined with chip removal on CNC machines.

The construction material (alloy steel and stainless steel), the heat treatment of surface hardening (carbon-nitriding) and the thickness of the structure constitute the natural defense of the block against the use of the drill and the saw.

Obviously, protracted attacks for a long time can cause the failure of one of the blocking organs. However, the rule is that a lock is always a deterrent and not the definitive solution to the problem of theft; it must be able to resist tampering as much as possible, increasing the risks of interception at the same time for those attempting the break-in.

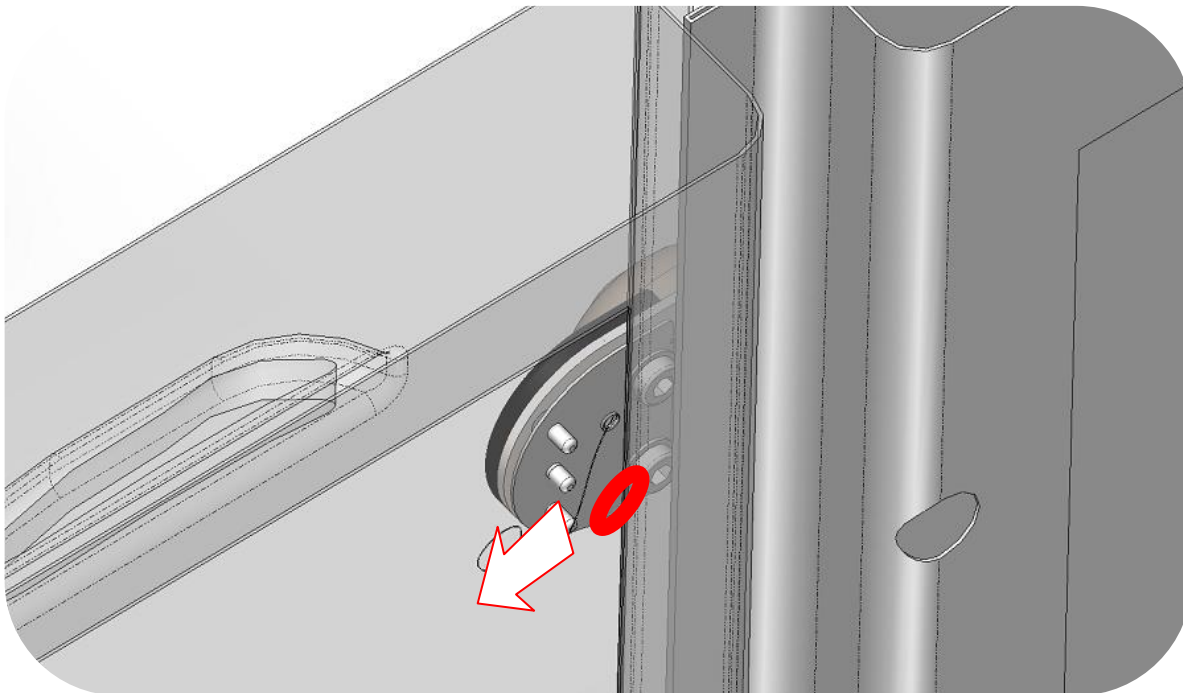
In any case, to maximize the effectiveness of the lock it is always advisable to have the standard lock of the vehicle functioning and activated; in this way the seal is maximized thanks to the joint action of the two hooks (the standard one of the vehicle and the padlock).

The padlock has been equipped with a practical and pleasant defender consisting of a stainless steel ring, free to rotate on its axis, with the function of protecting the surface of the armor from repeated impacts of the key.

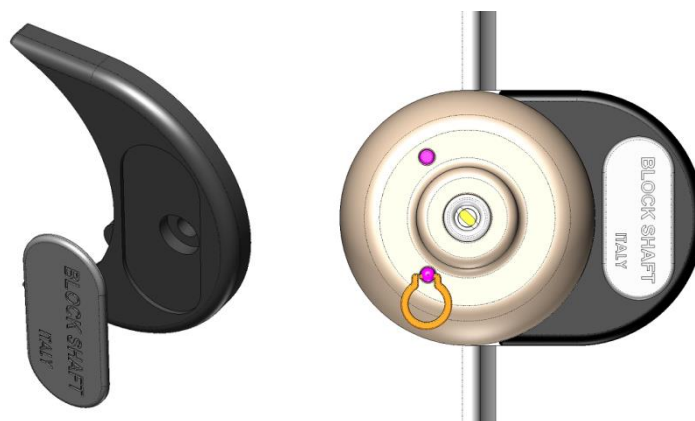


In case of opening from the inside (person accidentally closed in the load compartment) to simplify the opening operations from the inside, a high strength braided steel cable with a plastic eyelet terminal has been prepared.

To exit the load compartment, simply pull the cable and at the same time open the door with the internal handle.

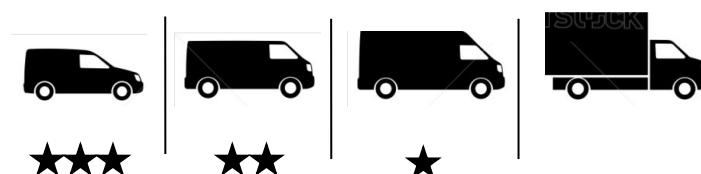


To complete the technical and functional characteristics, a new accessory has been integrated that allows to mask the rivets and at the same time offers the possibility to customize the product. It is a plastic cover with a housing for the logo. The cover is fixed using a rivet.



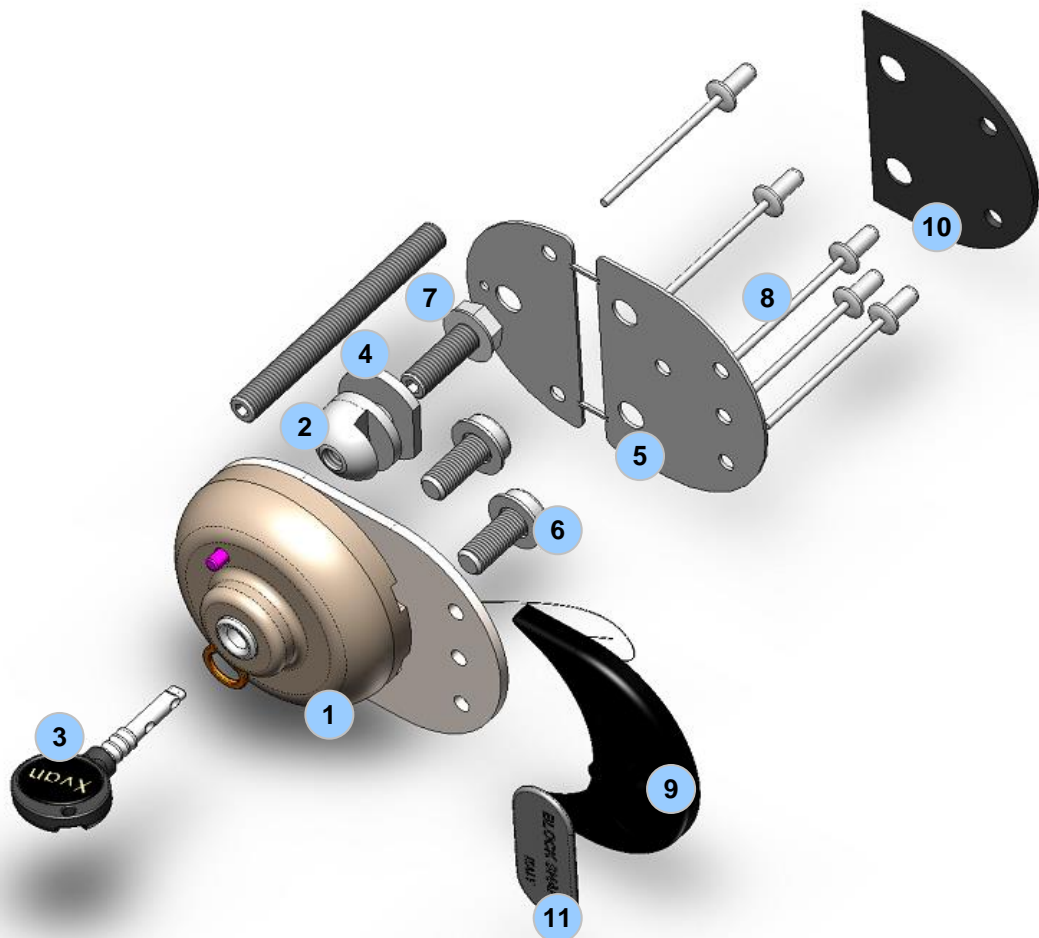
It is specified that the XVAN can be installed on all light transport vehicles and vans, but its safety / efficacy and its functionality / reliability are related to the size of the vehicle in an inversely proportional manner.

In particular, the product is suitable for mini-van and van, while for maxi-vans the large size of the doors and their relative high games tend to reduce both safety / effectiveness (high leverage) and functionality / reliability (decaying doors and related necessary padlock recordings). Box Vans are to be excluded. Below is an indicative scheme.



The installation kit includes the following details:

1. 1 x BODY PADLOCK;
2. 1 x STRIKE PLATE;
3. 3 x KEYS + 1 x OWNERSHIP CARD;
4. 1 x COUNTER-PLATE FOR STRIKE PLATE;
5. 1 x REINFORCEMENT PLATE (USED AS DRILLING TEMPLATE);
6. 2 x M8 PINS CYLINDRICAL HEAD LOWERED WITH WASHERS;
7. 1 x STRIKE PLATE FIXING KIT (1x M8X25 GRAIN, 1 x M8X80 GRAIN, 1 x M8 NUT)
8. 5 x 5MM RIVETS;
9. 1 x PLASTIC COVER
10. 1 x PLASTIC SPACER
11. 1 x RESINATED LOGO
12. 1 x INTERNAL OPENING KIT (1 RED TUBE, 1 x STOPPER)
13. 1 x ASSEMBLY INSTRUCTIONS;



INSTALLATION STEPS

STEP 1

CHECK



FIRST, check the correct alignment of the doors. If the door edges are not perfectly aligned, (fig.1,fig3), make the correct repositioning through the striker / hook (fig.2) and / or the hinges.

In the case of worn hatches, if necessary replace the hinges or reinforce them.

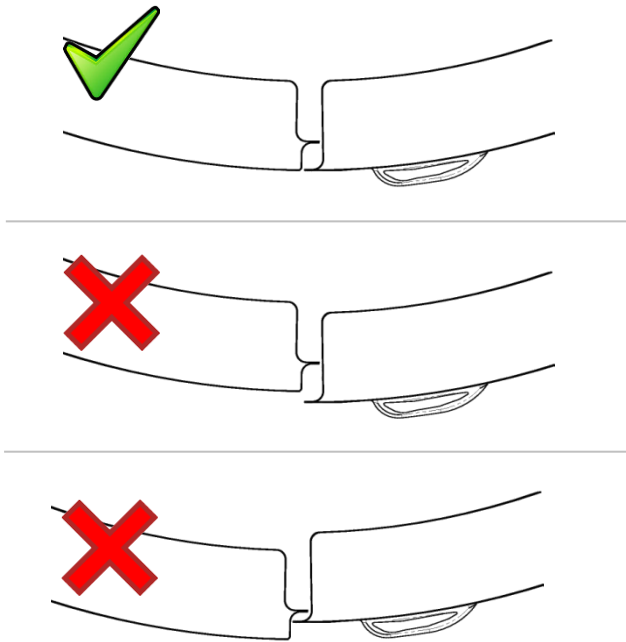


Fig.1

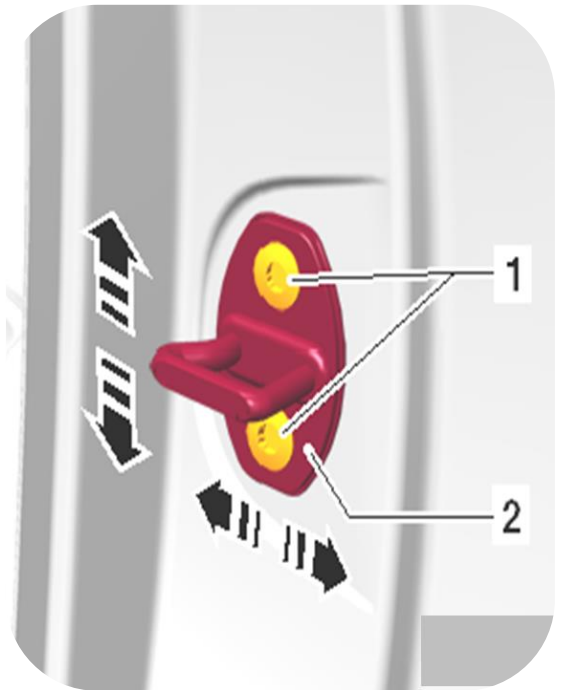


Fig.2

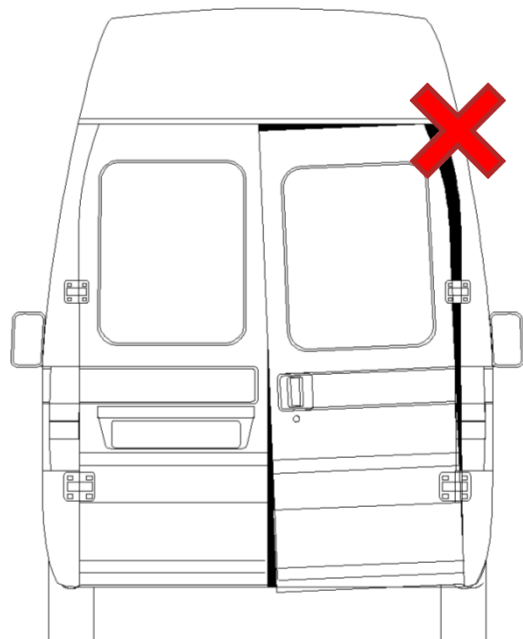
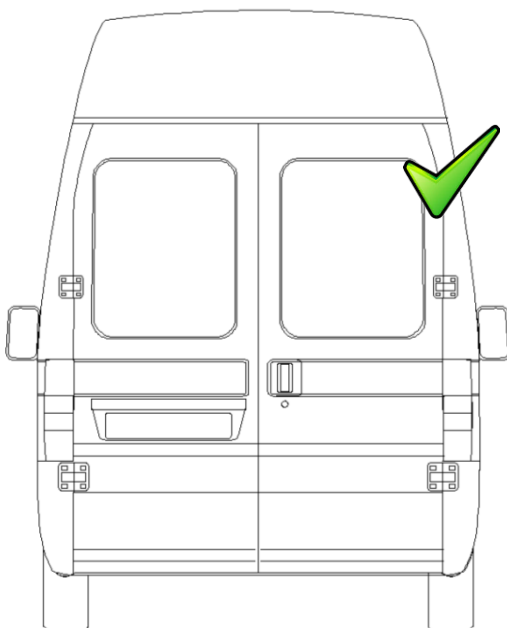


Fig.3

STEP 2

FITMENT



Evaluate one or more possibility positions of the lock. To this end we can define some valid criteria in general:

- Positioning The margin of the armor with respect to the lower edge of the door "H" must be such as to maximize effectiveness, therefore as much as possible in the middle of the tailgate (see fig.4) in order to reduce the leverage effects.

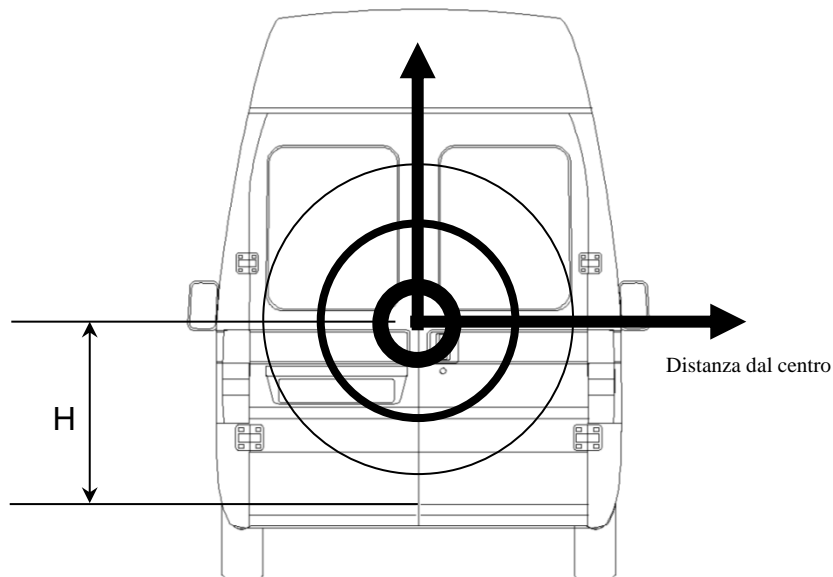


Fig.4

- **The position of the first two 8mm holes** is about 9 ± 2 mm from the vertical edge of the door that opens (see fig.5). This is a very durable tailgate surface. The indicated tolerance serves to allow the positioning of the cylindrical head of the M8 pin within the edge and never beyond it.

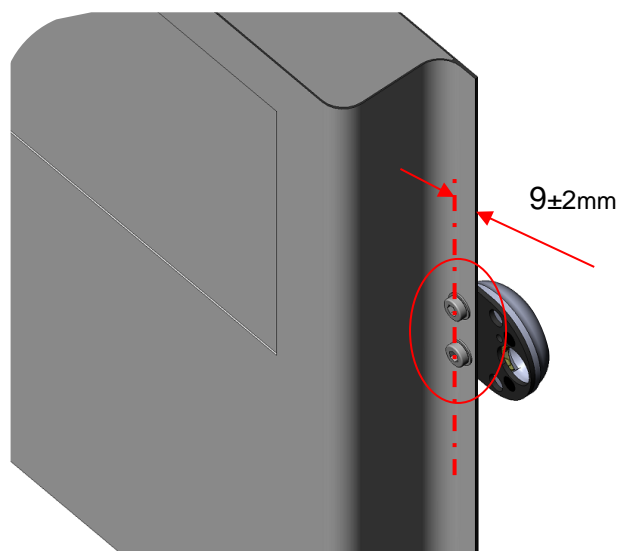


Fig.5

- **The position of the strike plate must ensure the correct positioning of the counterplate, the insertion of the nut and the tool used to guarantee tightening.** It may be necessary to bend / mill plates that interfere in order to avoid the removal of the outer plates (see next section).
- In particular, if in correspondence from the fixing area of the strike plate there is a second metal sheet or box-like profile inside the door and no drilling is performed, it may happen that by tightening the long nut which blocks the strike, the outer sheet is irreversibly deformed, bending inwards (Fig.6). This deformation would invalidate the assembly and operation of the lock. Any attempt to register the lock will be in vain.

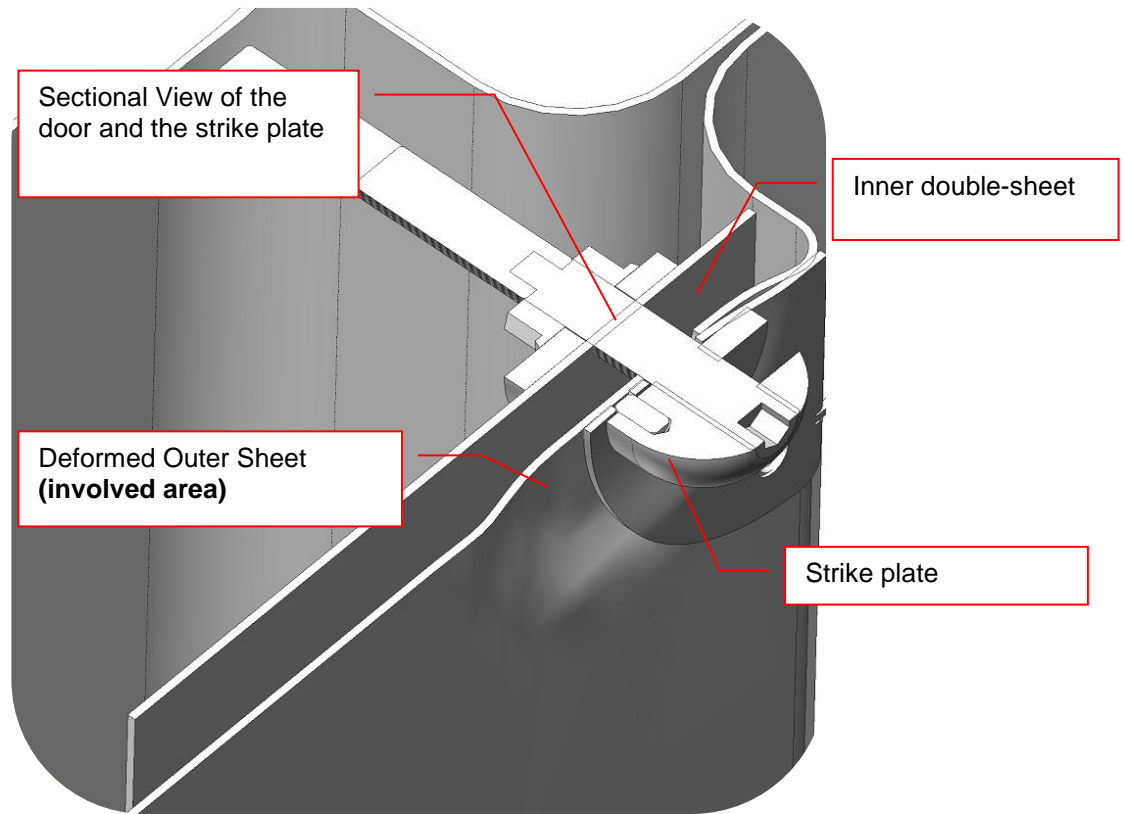


Fig.6

- **Avoid ribbing and special bending of the outer sheet of the tailgate, applying the armor on a sufficiently flat and regular surface.**

STEP 3

INSTALLATION OF DRILLING TEMPLATE



The assembly does not normally require the disassembly of the internal brush of the tailgate; it will be necessary to identify suitable areas for securing the lock, free from ribs, boxed sections, standard lock, tie rods and levers to prevent internal interference. It may be necessary to remove the door paneling only for fixing the strike plate.

Fixing is done with (fig.7):

- 2 M8 pins on the armor through the tailgate edge;
- 2 x 5mm rivets on the outer plate of the armor;
- 2 x 5mm rivets on the reinforcement plate of the strike plate;
- 1 x M8 pin and 1 x M8 nut to fix the strike plate directly on the internal counterplate.
- 1 x 5mm rivet to fix the plastic cover.

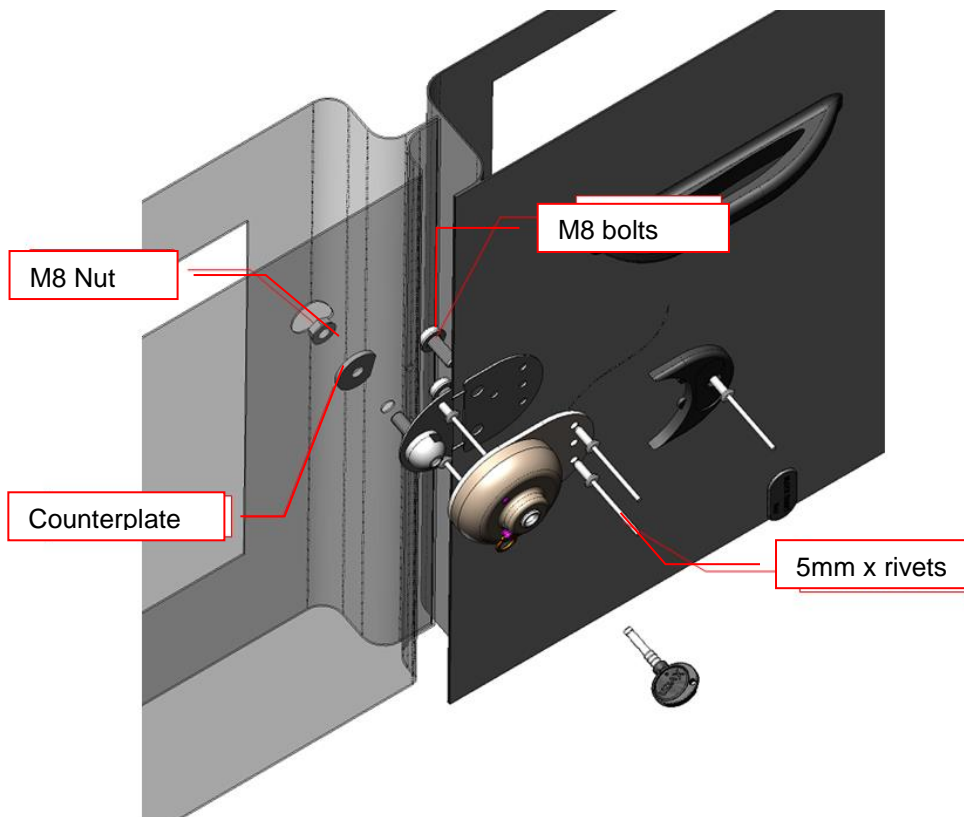


Fig.7

In detail, proceed as indicated below.

Stick the drilling template in stainless steel (fig. 8). In particular, on the inner side the plate has an adhesive that allows the fixing on the sheet of the vehicle. In this way, the plate has a double value: both a rigid drilling template and protection of the vehicle door plate (being interposed between padlock and sheet metal and between strike plate and the sheet).

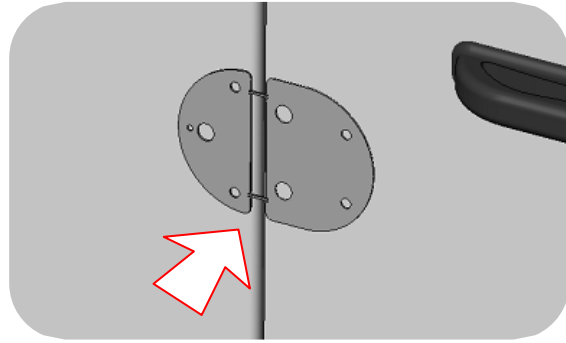
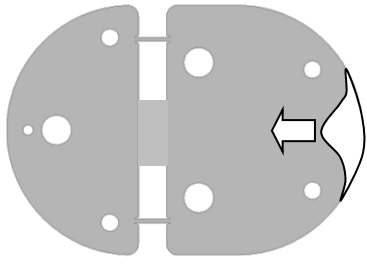


Fig. 8

Align the template by matching the vertical edge of the tailgate (opening side) with the vertical edge next to the two 8mm holes on the template (fig.9).

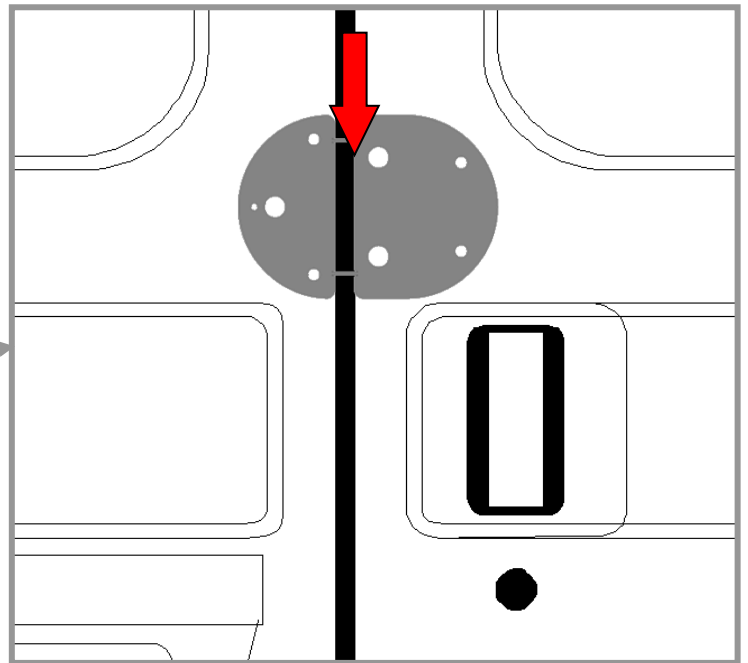
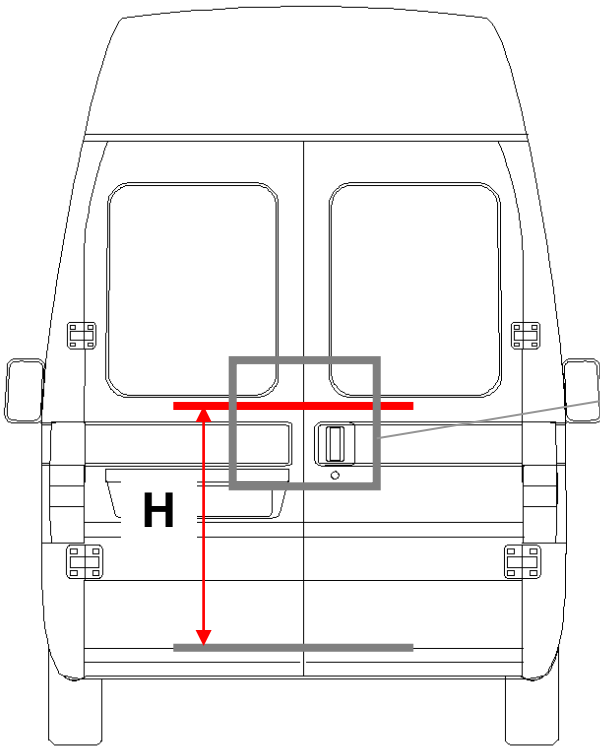


Fig.9

Once the template has been applied and the position of the holes marked, remove the two metal connecting junctions of the two parts of the template (fig.10). Verify that no sharp protruding parts remain.

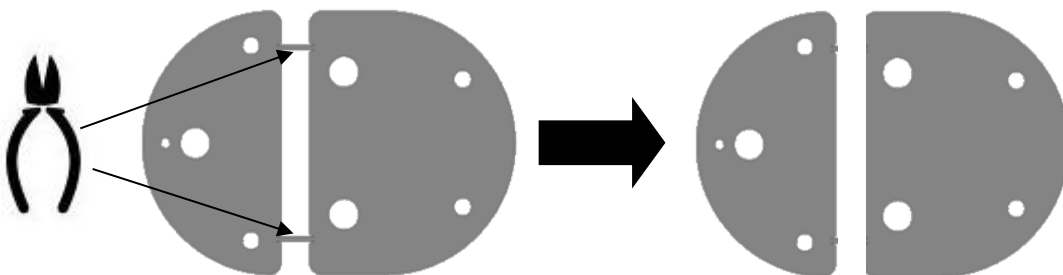


Fig.10

STEP 4

EXTERNAL DRILLING



At this point, mark the points on which the holes are to be drilled in such a way as to have a well-centered hole.



Before drilling, carefully check that there are no impediments and / or internal interferences and that accessibility is guaranteed as it will be necessary to apply the internal counterplate for the strike plate.

Make the holes already present on the metal template (made exceptions for the 3mm hole adjacent to the hole of the strike) (fig.11):

- 4 holes with a diameter of 5mm for fixing the plates of the strike and the armor.

- 3 holes of 8-8.5mm diameter for fixing the armor and the striker.

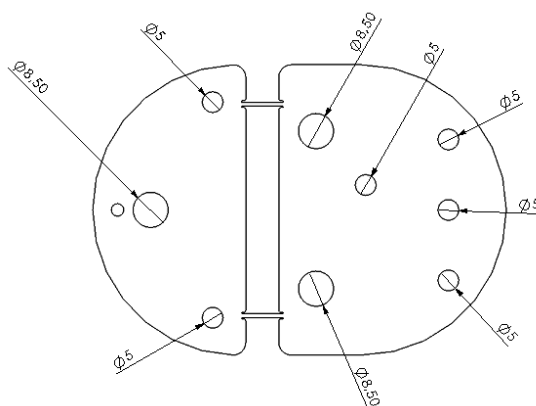


Fig.11

The armor fixing normally foresees the holes on the extreme edge of the tailgate using the two M8 pins with button head. Before drilling, check that the head of the M8 pin is contained in the edge (see fig.5).

In case the plate in correspondence of the holes is not perfectly flat and therefore does not allow a flat housing of the head of the M8 pins, it is advisable to identify a different position. If there are no alternatives, it is advisable to crush the same sheet with a pincer and a plastic dowel (to avoid bending or damaging the external sheet).



Before drilling, open the tailgate to avoid cutting the plate of the fixed door with the drill bit. In particular, the tip could go beyond the hole and reach the other door .

Then cover the edges of the holes with protective varnish.

STEP 5

INTERNAL DRILLING



If it is not possible to apply the backplate directly through an existing access, extend the striker fixing hole beyond the outer plate to the inside of the vehicle (fig.12).

To perform this drilling it is possible to mark the internal sheet with a tip, accessing the hole just made from the outside. Use a cup cutter or an umbrella tip to enlarge the internal hole up to a diameter of at least 28mm in order to ensure the passage of the counter plate of the striker that has a maximum diameter of 28mm.



EXTERNAL VIEW

INTERNAL VIEW

Fig.12



In the case where there is a third / fourth sheet metal between the external sheet and the internal sheet (for example ribs, reinforcements, boxed pieces) it is necessary to drill the same (fig.13) in order to avoid withdrawals of the external sheet and in order to guarantee the correct support of the counterplate on the external plate from the inside (see Fig.6)

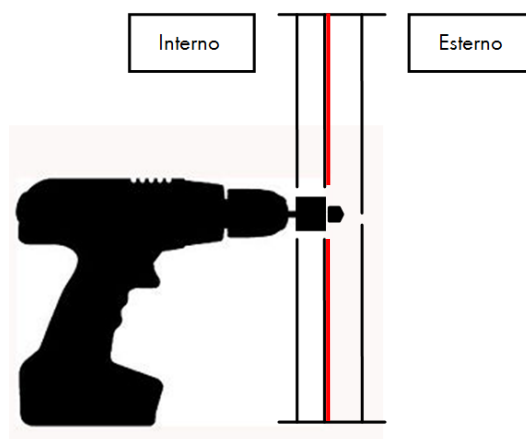


Fig.13

Then cover the edges of the holes with protective varnish.

STEP 6

STRIKE PLATE INSTALLATION



Apply 2 rivets supplied to fix the external support plate of the strike plate. The rivets avoid plate movements.

Fix the strike plate using the M8 grub screw (of adequate length and screwed to the same level as the cone head) and the M8 nut supplied by interposing the counterplate (which has a flat part for any alignment needs or to avoid protrusions) (fig.14). To align the strike plate, use the plug applied to the same strike and the hole on the plate.

For a greater resistance to unscrewing it is advisable to apply threadlocking to the nut or alternatively to slightly dent the thread of the pin.

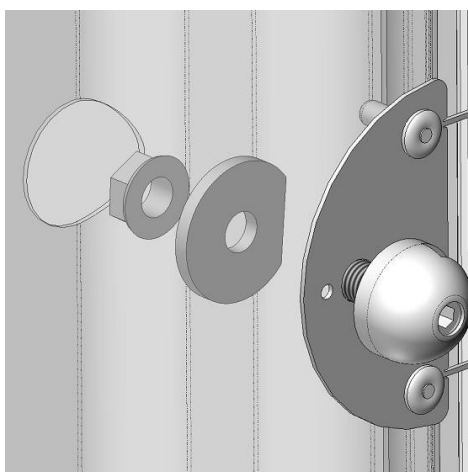


Fig.14

STEP 7

ARMOR INSTALLATION



Apply 2 rivets supplied to fix the armor base plate. These rivets mainly have the function of supporting the weight of the padlock and also oppose burglary resistance (fig.15). Do not use the central hole (it will serve later).

Apply the two M8 pins to the edge of the tailgate. The padlock is held mainly by these pins (fig.15).

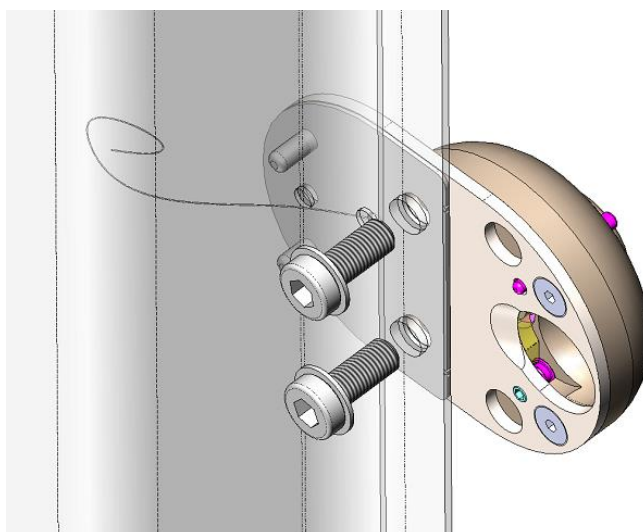


Fig.15



For vehicles that have a high curvature of the doors (which could compromise the alignment for the regular closing) it is advisable to use the spacer supplied (fig.16).

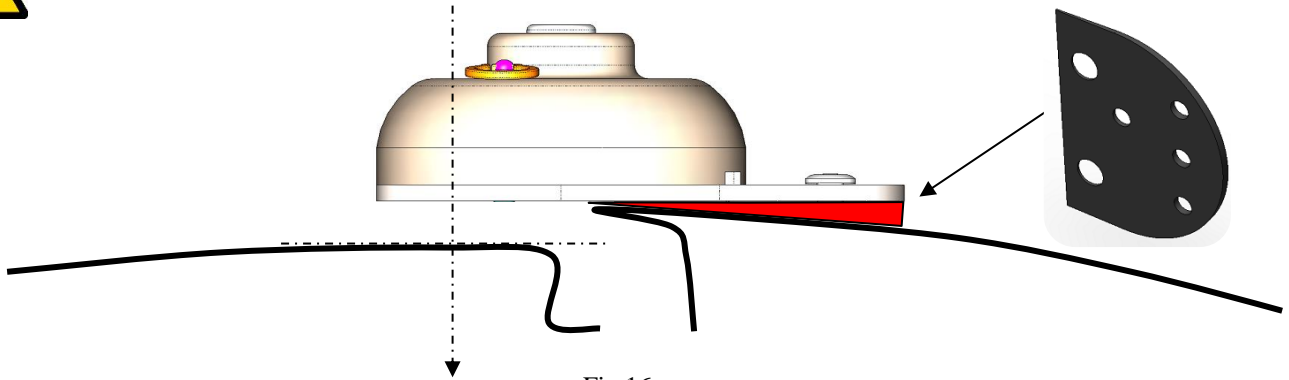


Fig.16

STEP 8

FINAL TESTING



Perform some closing of the tailgate to check the correct alignment of the strike plate. If necessary, align the armor by using a rubber hammer. This operation must be carried out with an open lock.



Check that the cam is open before closing the tailgate in order to avoid collisions between the cam and the striker (fig.17) and to better perceive the absence of friction and rubbing .

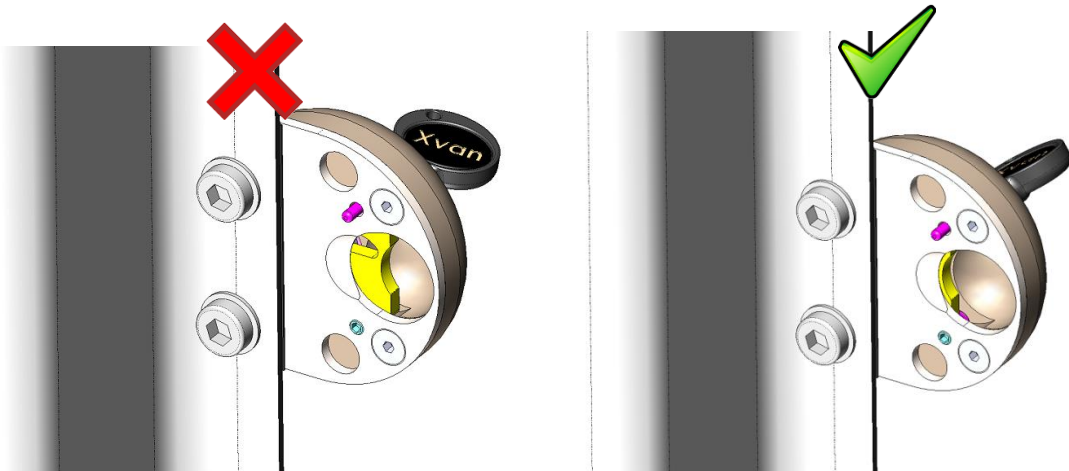


Fig.17

Finally, check the free rotation of the key: the opening must take place without excessive force on the key. Finally, tighten the nut and the armor pins completely.

STEP 9

EMERGENCY RELEASE CABLE



Install the emergency release cable. It is sufficient to make a small hole through the plastic panel or in the plate of the door and pass the cable that protrudes from the padlock armor. Stretch the emergency cable positioning it in a suitable seat (it is preferable to apply it externally with respect to the paneling, thus avoiding holes and giving the possibility to disassemble the panels without having to disassemble the emergency opening). At the end of the cable, insert the red tube for the opening and the cable clamp. Then make a suitable eyelet to facilitate the opening. With the padlock closed (cam forward), crimp the cable clamp to ensure the right seal when opening (fig.18).



PERFORM THE CLOSED PADLOCK OPERATION. During the opening, the cable runs along the length of the cam stroke and therefore also the terminal which must be free to slide.



Fig.18

STEP 10

PLASTIC COVER APPLICATION



To complete assembly, apply the plastic cover. Insert the two tabs under the shell and finally apply the 5mm rivet in the special hole (fig.19). The rivet will be masked by the adhesive sticker that is inherent in the appropriate seat.

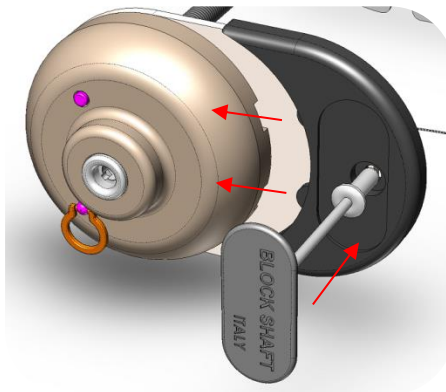


Fig.19

STEP 11

SLIDING SIDE DOOR



For the sliding side door, it is necessary to follow the same steps indicated for the tailgate. In particular, the position of the lock is normally near the horizontal sliding rail of the tailgate.

In particular, check that the strike plate does not interfere with the tailgate during sliding opening (fig.19).

Position the drilling template with the longitudinal axis parallel to the sliding guide and the vertical axis aligned with the edge of the tailgate.

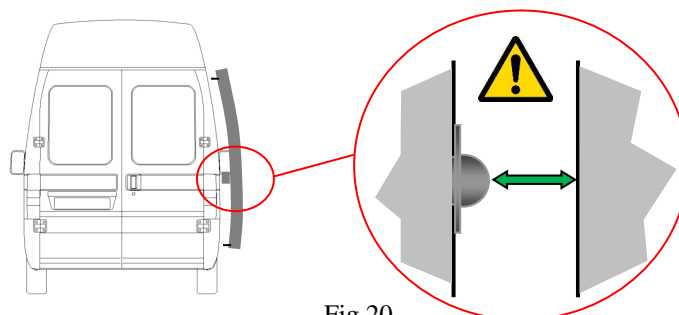


Fig.20