

OEMTech

*Excellence  
Through  
Innovation*

## Armadillo Locks

### Product Guide

Document ID: G0035 v1.0

101138: Armadillo Side Universal

100139: Armadillo Rear Universal



**Read guide fully before commencing installation.  
This guide must be present during time of install.  
This guide is to be used in conjunction with training.**

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## Document Change Control

Date	Version	Author	Approval	Changes
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## General Notices

- Before starting installation, please read the documentation fully as the performance of the device is dependent on correct installation.
- This device is designed for automotive use only. It must not be used in situations where human life is dependent on its performance.
- Installation of this device may conflict with some countries regulations, or the vehicle manufacturers instructions. Compliance with these regulations shall solely be the customers responsibility. Improper installation may invalidate the vehicle warranty.
- Prior to the commencement of any work, the correct PPE should be worn and a risk assessment should be conducted in accordance with your company policies.
- Ensure manufacturers guidance is followed during the installation.
- The device must be installed by a suitably qualified and experienced professional skilled in automotive electronics.
- Misuse, physical damage and incorrect installation will invalidate the warranty of this device or systems using this device.
- Vehicle batteries should be isolated before working on any electrical systems.
- If using the OEM body builders module to gain CANbus information, ensure the module is correctly configured by the manufacturer.
- Do not secure the device in a way where it will interfere with the vehicles control systems. E.g. steering column, brake pedals etc.
- Other people may install equipment after you, so your work must be firmly secured in place, this includes devices and cabling.
- Connecting the power supply and ground should be done as per OEM specifications. Once any jointing or crimping has been completed, testing should be conducted to ensure the joint is compliant with the crimp specifications and all other relevant standards.
- We do not recommend drilling through vinyl (vehicle decals etc) as this will lead to blistering from the heat generated. Hole should be fitted with a grommet and sealed with appropriate sealant.
- Any alteration to metal must be de-burred and all sharp edges removed. Exposed bare metal must be treated with appropriate anti-corrosion solution in accordance with manufacturers recommendations. Any swarf produced must be collected by placing a magnet or catchment device under the area of modification. No swarf is to be left on or in a vehicle.
- We recommend using flexible polyurethane sealants. Any sealed areas must be sealed to a minimum of IP65 and must comply with the vehicle manufacturers recommendations.
- Any serial / key numbers from the equipment being installed must be logged against the vehicle identity for future reference.

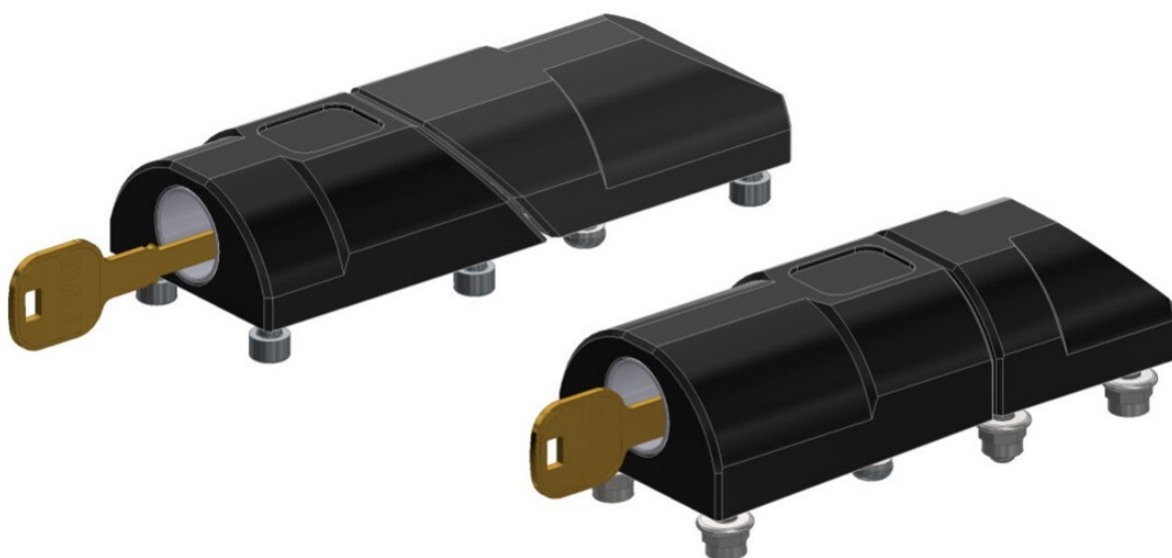
## Introduction to Armadillo Locks

The Armadillo lock is a unique locking system that prevents forced entry to vehicles. Externally fitted to rear and side doors, it has two main parts which interlock, joining the vehicle door to the main structure. It cannot be prised open and is angled to deflect blunt force blows from a hammer or other tools. British Gas have been using this lock for almost a decade and have had virtually zero successful break-ins.

The Armadillo lock comprises of two main parts, The Lock shell (the part with the lock barrel) and the Keep shell.

### Key Benefits

- Keyless locking - "Push to Lock".
- Too tough to smash or prise open.
- Made from high grade machined aluminium.
- 12mm Stainless Steel Securing Pin.
- 8 point mounting with internal reinforcing plates.
- High precision pin & tumbler system with anti-drill features.
- Anti-corrosion protection lasts the lifetime of the vehicle.
- Easy to use push lock system for any door or compartment.



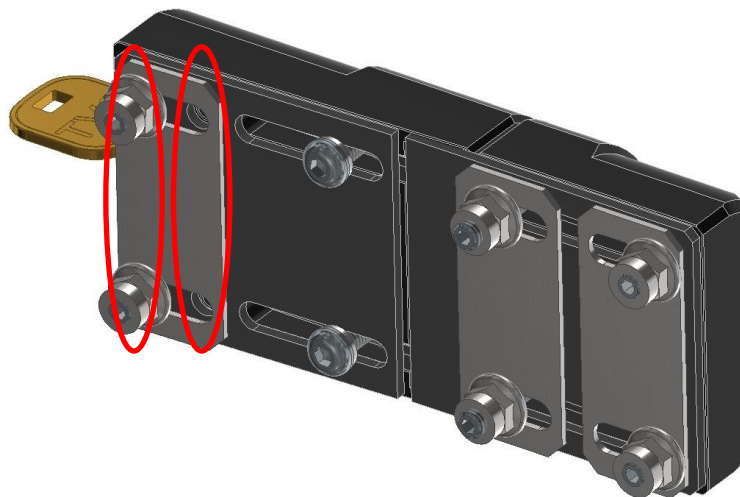
## Physical Dimensions

Physical Dimensions		
	Armadillo Side	Armadillo Rear
Length	161mm (+/- 7mm)	142mm
Width	63mm	63mm
Height	32mm	34mm - 37mm
Weight	660g	675g

- The length of the Armadillo Side lock can vary slightly depending on the vehicle it is fitted to.
- The Height of the Armadillo Rear lock varies along its length as it has a slight curve designed into the lock to give better fitment on the rear doors. The height shown above is the min / max.

## Armadillo Installation Guide

- Select a suitable area for the Armadillo lock.
- Remove the inner door panel to gain access to the outer skin, this will also allow you to check that your selected fitting location will not foul on any OEM equipment such as the door locking mechanism or wiring looms.
- Place masking tape on the door covering the area where the lock is to be fitted.
- Mark all the drill points on the masking tape, use a steel rule or vernier gauge to re-check all measurements.
- Note the Rear Armadillo Lock shell has 6 mounting holes. The key side of the Lock shell has 2 pairs of holes (circled below), select either 1st or 2nd pair that best fit your vehicle type but ensure 4 mounting holes are used on the Lock shell. The whole Armadillo should use 8 mounting points.



Underside of Rear Armadillo showing the mounting holes on the key side

- Pilot drill all holes with a 3mm drill bit, then drill out to 5mm and finally drill out to size with a 7mm drill bit.
- Once all holes are drilled, remove the masking tape. Deburr all holes and treat any bare metal with an appropriate anti-corrosion solution in accordance with manufactures specifications. Ensure the anti-corrosion solution has dried before fitting any bolts.
- Ensure all fixing bolts have a medium strength thread lock applied.
- Starting left hand side, insert the fixing bolts through the flat washer, large reinforcing plate (ensure its orientation matches the footprint of the Rear Armadillo keep) and through the drilled holes.

## Armadillo Installation Guide - Continued

- Place the gasket on the door with the keep shell. Screw a couple of threads of the outer fixing into the keep then slide the square nuts into the end of the keep shell ensuring they are orientated as the image below.

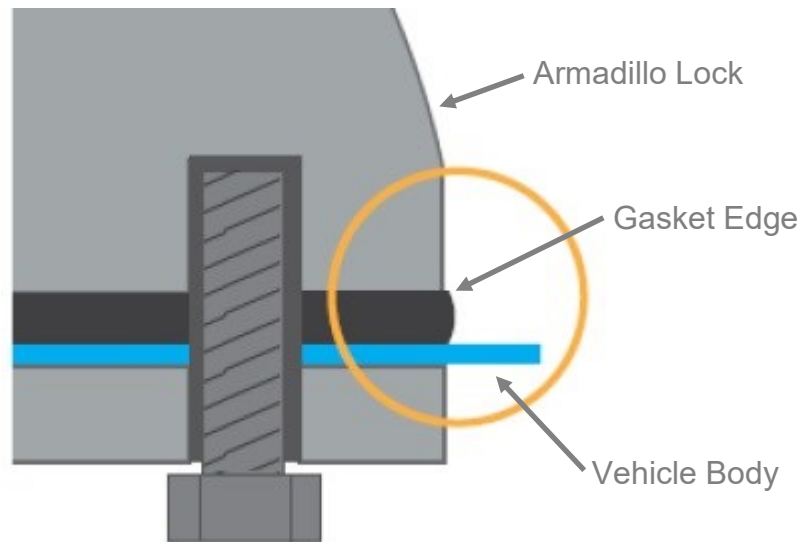


Square nut orientation

- On the right hand door insert 2 socket head bolts through flat washers, the reinforcing plate and the drilled holes. Next insert the two dome head bolts through flat washers and into the holes closest to the door edge.
- Place the gasket on the door with the lock shell screw a couple of threads of the fixings in, then slid in the square nuts into the end of the lock shell ensuring they are orientated as per the image above, then screw in the dome head bolts a couple of threads.
- Ensure the Armadillo keys are NOT inside the vehicle. Slowly close the door and check that the lock and keep shells are correctly aligned and are not catching. Open and close the doors a few times to confirm alignment and functionality. There should be a gap between the lock and keep shells of approximately 3mm.
- Ensure that the Armadillo lock is level on the vehicle.
- When the Armadillo is aligned and functions correctly, all bolts can be tightened in the following sequence until a torque of 4 Nm is reached. The bolts should be tightened by one quarter turn at a time starting with Upper Left, Lower Right, Upper Right, Lower Left.

## Armadillo Installation Guide - Continued

- The gasket edge is naturally flat. After correctly torquing the fixing bolts the gasket edge should be slightly convex as shown in the diagram below.



Gasket Profile

- All bolt heads should be coated with a suitable anti-corrosion solution.
- The inside of the lock / key hole should be lubricated with a suitable oil such as 3-in-One oil spray, and any excess wiped clean.
- Finally replace all inner door panels or trim that was removed to fit the Armadillo, then carry out a final test. Note - the key must be fully inserted into the lock before turning.



Armadillo Side fitted to TVG Engineers Van



Armadillo Rear fitted to TVG Engineers Van

## Armadillo Maintenance

- The Armadillo locks are mechanical products with moving parts and will therefore require some degree of maintenance. The lock is designed to be used daily and should not be left locked or unlocked for prolonged periods of time.
- On the UK mainland, and when the Armadillo is in regular use we recommend using 3-in-One oil or spray once or twice a year. In costal areas and islands where there is a prevailing salt environment then more regular maintenance should be carried out, we recommend a few drops of oil a month. In both cases common sense should prevail and you should use the oil when necessary.
- The Armadillo is fitted with an anti-seize bush to prevent the barrel from seizing to the body
- To apply 3-in-One oil you should insert the nozzle tube through the weather flap and apply the oil into the lock aperture. Insert the key into the lock and rake in and out 10 times. Rotate the key in the lock 90° and back 5 times.
- To apply penetrating fluid you should insert the nozzle tube through the weather flap and apply the penetrating oil into the lock aperture. Insert the key into the lock and rake in and out 10 times. Rotate the key in the lock 90° and back 5 times. Repeat this process until the penetrating oil runs clear. Clean the door where the fluid has run down. Follow the steps above for applying 3-in-One oil.
- WD40 is NOT a lubricant and should only be used to assist in freeing off the lock. The locks MUST be oiled after an application of WD40.

## About Us

The Vehicle Group Limited (TVG) is a leading manufacturer of high quality safety and security systems for commercial vehicles. Our facility in North Yorkshire, where we have circa 100 employees, is home to our design, manufacturing, engineering, and service centre. We are especially proud of our market leading, British engineered and manufactured CCTV solution Oculux®, which is used Worldwide.

Our technology's include:

- Oculux® Cameras.
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- CANbus Readers.
- Commercial Vehicle Announcement System (CVAS).
- Vehicle Solar Systems.
- Cable Harness Design & Manufacture.
- Electronic Design & Manufacture.
- Systems Development.

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