



CYLINDER INSTALLATION GUIDE

This technical briefing has been written by the Guild of Architectural Ironmongers, the Door & Hardware Federation, the Glass and Glazing Federation and the Master Locksmiths Association, and is intended to provide guidance on the methodology for the successful installation of euro profile cylinders for locking devices. This guidance has been issued following reports from association members of incorrect installation and mishandling of cylinders which has resulted in failures of the cylinders.

It is intended as guidance for manufacturers, installers and architectural ironmongers.

1 INTRODUCTION

This document has been split into the following sections to reflect each stage of the installation process:

- **Pre-installation** (Page 3)
- **Installation** (Pages 4-5)
- **Operation** (Page 6)
- **Appendix: Certification schemes** (Page 7)

In addition to the advice given in this document, it should be noted that cylinders should always be installed, checked, maintained and tested regularly in line with the manufacturer's instructions and recommendations.

This is a guide of best practice and has been created to assist with the successful installation of all types of euro profile cylinders.

It is applicable to most cylinders on the market but, due to differing security levels, standards, regulations and manufacturers' designs there are variations. Where manufacturers' guidance conflicts or differs from this guide, the manufacturers' guidance must be followed.

Please note that using an MLA approved locksmith would ensure the guidance in this document is followed but in the absence of this then this document provides guidance for manufacturers, installers and architectural ironmongers

Note: As cylinders are designed with very narrow tolerances, this document is designed to assist with successful installation of product.

Note: Incorrect installation can lead to damage to the cylinder as well as negatively impacting the lockcase it is intended to be fitted to.



2 PRE-INSTALLATION

1. Care should be taken to prepare doors accurately.
2. Ensure that lock cases are fitted squarely within the door (**Figure 1**).
3. Ensure that any operating furniture and escutcheons which have already been installed have been correctly aligned.
4. Check if the cylinder is handed - this should be clearly marked on the product and also on manufacturer's instructions. If it is handed, care should be taken that it is installed correctly.
5. The cylinder should be visibly inspected for damage prior to installation.
6. Damaged cylinders should not be fitted.
7. Some cylinders have a sacrificial snap point which is part of their security feature (**Figure 2**). Check that this sacrificial point is not damaged, bent or twisted in any way.
8. Check that the manufacturer's installation, operation and maintenance instructions are included with the product.
9. The operation of the cylinder, along with any cylinder specific functions should be checked and tested prior to installation.
 - a. Check and test operation of the keys - insert keys, rotate through 360° and ensure the cylinder CAM is rotating.
 - b. Check and test operation of the thumb turn (cylinder model dependent) - rotate through 360° and ensure the cylinder CAM is rotating.
10. Check that the door sits squarely and does not bind in anyway against the door frame.
11. Check the operation of the door in that it swings easily between the open and closing planes.



Figure 1 - Lock case fitted squarely within the door



Figure 2 - Sacrificial snap channel on cylinder

3 INSTALLATION

1. When installing cylinders, the hole drilled in the door face should follow the shape of the cylinders and be as tight as possible; furthermore, the single cylinder's door preparation should penetrate through only half the thickness of the door leaf.

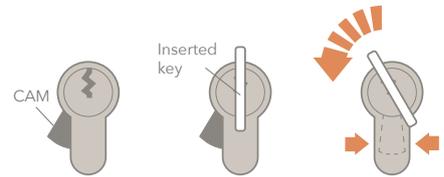


Figure 3 - Cylinder cam central

2. Using the key or thumb turn set the CAM in the centre of the cylinder body. Do not use force (Figure 3).
3. Any backplates and escutcheons should be loosened prior to cylinder installation.

4. Insert the cylinder into the lock case making sure it is horizontal and at 90° to the door face before fully tightening the escutcheon/backplate fixings (Figure 4).

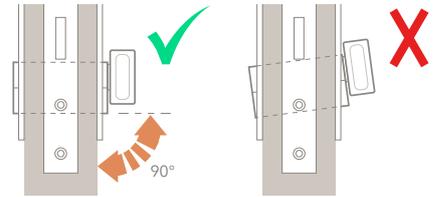


Figure 4 - Inserting the cylinder

5. If the cylinder has a sacrificial snap point as part of its security feature, care must be taken on installation not to bend, twist or open this snap point as the security feature could be activated.
6. The cylinder should enter the door cavity and cylinder piercing of the lock case without any force.
7. DO NOT FORCE the cylinder into place as this will damage the cylinder and lock case (Figure 5).
8. Note that manufacturer's instructions must be followed in respect of dimension of projection of cylinder from escutcheon or door furniture.

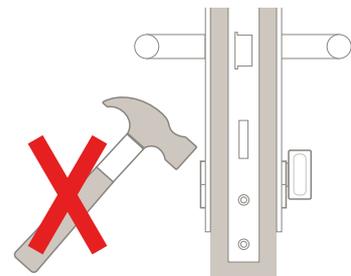


Figure 5 - Do not force the cylinder

3

INSTALLATION CONT'D

9. Ensure M5 securing bolt length is sufficient to engage fully through the cylinders but finishes before reaching the back of the lock case.
10. Tighten the cylinder retaining screw. **DO NOT USE POWER TOOLS, DO NOT OVER TIGHTEN.**
11. When tightening, ensure the cylinder is perpendicular to the lock/door both vertically and horizontally
12. If the cylinder has a sacrificial snap point as part of its security feature, care must be taken when fixing the retaining screw. Excessive force from a power screwdriver or battery drill will apply pressure between the cylinder and the lockcase that may bend the cylinder out of alignment and impact its operation (Figure 6).
13. Fit escutcheons or door furniture, taking care to not affect orientation of the cylinder.
14. With the door open, first check the cylinder operates smoothly from both sides by using the key/thumb turn, as appropriate (Figure 7).
15. Ensure the door latches correctly and that the deadbolt (if appropriate) throws smoothly into the keeper (Figure 8). Adjust strike plates accordingly.

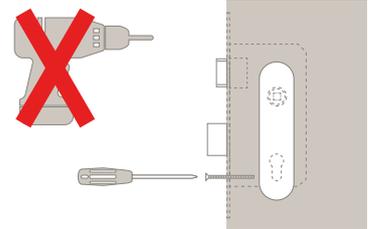


Figure 6 - Do not use excessive force or power tools

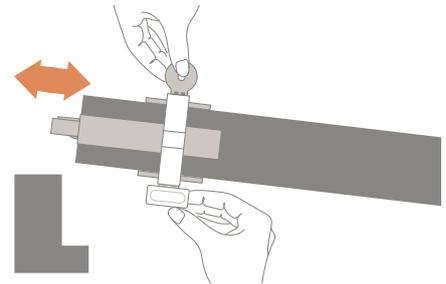


Figure 7 - Check the cylinder operates smoothly

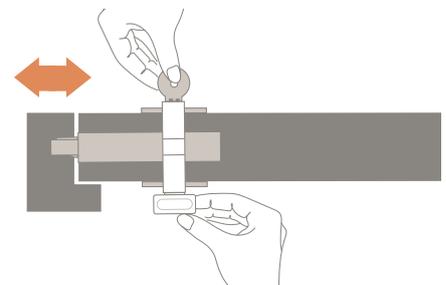
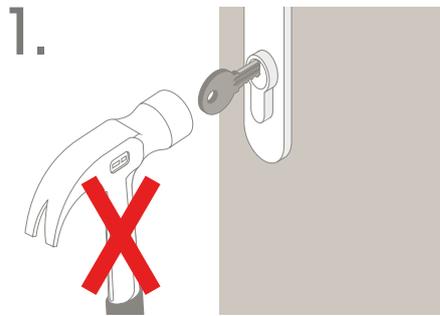


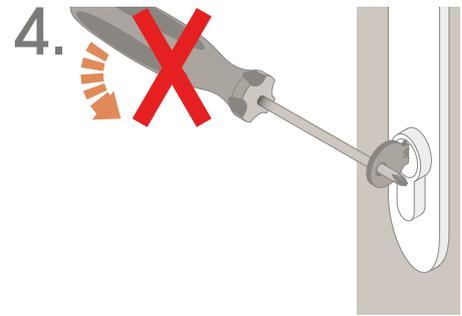
Figure 8 - Check the deadbolt throws into the keep

4

OPERATION



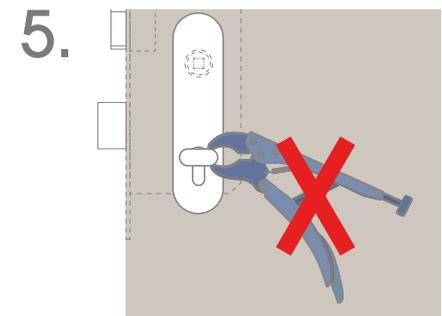
Do not force the key into the cylinder.



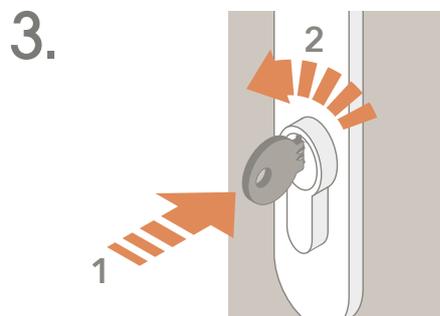
Do not insert objects to increase the torque on the key bow.



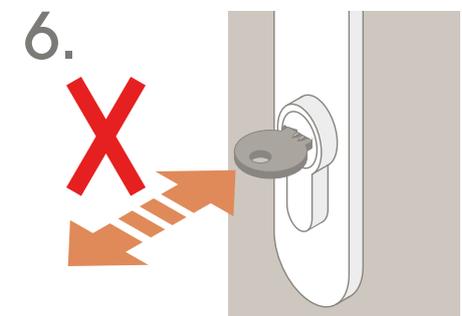
Do not use damaged or bent keys.



DO NOT FORCE the thumb turn with a device such as vice grips to increase leverage.



Make sure the key is inserted fully (1) into the cylinder before turning (2). DO NOT force the key to turn.



Do not use the thumb turn or key to pull the door open or closed.

Information on Security Cylinders Certification Scheme



3 STAR CYLINDERS

This cylinder offers resistance to the commonly used types of attack.

No specific security hardware is required, but installing a three star cylinder in conjunction with security hardware complying with TS 007 will increase attack resistance still further.

Security hardware can be of several types, including a handle with a reinforced backplate, an escutcheon or a device which is concealed behind the handle backplate. In all cases, the purpose is to protect your cylinder from force attack.

Three Star cylinders have a SNAP feature which must be on the external face of the door. Take special care on installation to avoid damaging the cylinder or activating the SNAP feature through the use of undue force (See Pre-Installation section).

Note: If a thumb turn cylinder is attacked it will lock in position. To release the cylinder you must follow the manufacturer's instructions and then turn to release. PLEASE CHECK YOUR MODEL OF CYLINDER.



1 STAR CYLINDERS

This cylinder offers resistance to many types of attack.

It is designed to be used in conjunction with two star security door hardware to ensure enhanced resistance to all commonly used attack methods. Therefore this product MUST be used in conjunction with two star security door hardware meeting TS 007 to ensure security.

Such hardware can be recognised by the two star marking which may either be visible from the outside on an installed handle or, failing this, will be visible once the outside handle has been removed.

Security hardware can be of several types, including a handle with a reinforced backplate, an escutcheon or a device which is concealed behind the handle backplate. In all cases, the purpose is to protect your cylinder from force attack.

Sold Secure is a test and certification agency dedicated to reducing the risk of crime by the assessment of security products. It tests products to standards developed in conjunction with the industry to prove the level of security provided, thereby helping give guidance for manufacturers, installers and architectural ironmongers.



Sold Secure Diamond and Gold require the same test evidence, but Diamond requires an additional Sold Secure attack test without security door furniture.

This is considered as an alternative to TS 007 three star and is also quoted directly in PAS 24.



Sold Secure SS 312 Gold is in harmony with TS 007 one star as they both rely on the same test evidence, it also requires BS EN 1303 to the correct classification and an MLA General

Vulnerability Assessment, with both quoted directly in PAS 24 standard.



SS 301 Domestic Buildings Bronze requires handles and escutcheons to be used with SS 312 Gold Cylinders as quoted directly in PAS 24 standard.



Door & Hardware Federation

DHF is a not-for-profit membership organisation that represents all the key players in locks and building hardware, doorsets, industrial doors and shutters, domestic garage doors and automated gates.

www.dhfonline.org.uk



Guild of Architectural Ironmongers

The Guild of Architectural Ironmongers (GAI) is the only trade body in the UK that represents the interests of the whole architectural ironmongery industry - architectural ironmongers, wholesalers and manufacturers. Its reputation is built on three key areas: education, technical support and community.

www.gai.org.uk



Glass and Glazing Federation

The Glass and Glazing Federation (GGF) is the main representative organisation for companies involved in all aspects of the manufacture of flat glass and products and services for all types of glazing, in commercial and domestic sectors.

www.ggf.org.uk



Master Locksmiths Association

The Master Locksmiths Association (MLA) is the UK's largest trade association for locksmiths & a non-profit making body; established to set and promote standards of conduct, practice and materials within locksmithing.

www.locksmiths.co.uk