



Keyed Alike Cylinders - *Made Easy* **UAP**LIMITED

Re-Pinning is now Child's Play

Thank you buying the UAP Re-Pinning Kit. You are now on your way to producing your own Keyed Alike Cylinders.

You can Key Alike any type of cylinder as long as it has the same number of pins. The kit we have provided is geared towards UAP and ICL Branded cylinders.

This guide can be used as a step by step instruction covering all the basics. There are slight variations with say a Thumbturn Cylinder, but the basics are all the same. The methodology is still the same.

We have also produced a high Quality Training DVD covering both standard euro and Thumbturn Cylinders. The DVD can be used in harmony with this booklet to give you all the help you need. We've also included a section on using Pickbuster, and a section on trouble-shooting common re-pinning mistakes.

If you do find yourself with a problem that is not covered by this booklet, or the DVD then please contact our Technical team on 0161 763 5290



Terminology

When we want to Key Alike a Cylinder, all we need to do is make sure that the pins in one cylinder are the same as the pins in another cylinder. Once the pins are the same then the same key will open them.

The main terminology you will hear is;

Keyed Alike in Pairs - This usually means that 2 cylinders are operated by the same key. And usually you will get 3 keys with the 2 cylinders.

Keyed Alike - This can be for any number of cylinders, all having the same key. For example, you may have a home with more than 2 locks and want them all to have the same key. A housing developer may want to have cylinders with the same key on site during the building work so that the builders need just 1 key to get in to all the properties. The list of possibilities is endless.

Master-Keyed Systems - This is similar in principal to Keyed Alike but it is also vastly different. Master keyed systems are usually used in Residential Homes, Hotels etc. For example, a Hotel may have 4 floors. The Cleaners on each floor may want to have just 1 key to open the bedrooms they look after on their floor. They then need a Master Key for their bedroom doors. The supervisor of the floor may then need a key to open any bedroom on that floor, and so will require a Grandmaster Key. The Cleaning Manager may want a key to open every bedroom on all 4 floors, and so will need a Grand Grandmaster key. And finally, the Hotel Manager may want just 1 key to open any door in the whole hotel including the bar areas, offices etc. The manager will then need a Grand Grand Grandmaster key.

Master Keyed systems use different pins to normal cylinders, and are not covered by this booklet, or this re-pinning kit as it requires sophisticated computer programming to calculate the pinning combinations. We have outlined Master Keying for interest only.

Basic Concept

A cylinder comprises a lock body. In the lock body is a series of springs and bottom pins. The springs keep the bottom pins under pressure.

There is a Plug which goes in to the body of the cylinder. This has a design through it which is the shape of the key. This is called the keyway. The shape is specific to a type of key, so only a key of that shape and design can go into the lock. Inside the plug head are the top pins. These pins are different sizes and they correspond to the shape of the key. A deep groove in the key means a large pin, a small groove a small pin.

Your key will usually have 5 or 6 grooves. If it has 5 grooves then the cylinder is a 5 pin cylinder for example.

When you insert your key into the keyway, the Top Pins are forced downwards. The pins then fit into the shape of the key, and if it is the correct key then all the top pins will line up perfectly with the edge of the plug. The minute distance between the plug side wall and the top of the bottom pins is called the Shear Line. For a plug to turn smoothly requires there to be a clear shear Line.

When a cylinder does not have a key in it, then the springs underneath the bottom pins, push those pins into the holes in the plug head forcing up the top pins into the plug. This then creates a metal bolt and stops the plug turning. When you insert the correct key, the top pins push down the bottom pins and springs and creates a clean shear line enabling the plug to turn.

Most, if not all Cylinders work on this simple basis.

Tools you will need:

The UAP Re-Pinning Kit gives you almost everything you need to key cylinders. There are a couple of items that you may want to get to make the process simpler and more organised. You will need to cut keys. You can do this with a Junior Hacksaw, or if you want to do a lot then we recommend an electrical tool such as a Dremmel and use the long-life cutting discs. A small metal file is useful. A bench vice is a must, and ideally 2 is handy if you are doing a lot of keyed alike cylinders.

How long will it take

Practise is vital when doing any task for the first time. You will also waste cylinders at the start as you make the odd mistake, so buy a few cheaper, smaller cylinders to practise on. After you mastered the techniques it will usually take around 10 minutes to key a cylinder.

Disposable Items

In theory you should not have to buy any more items for keying cylinders. As you will be able to re-use any pins etc that you take out from the lock you are keying. However if you do need extra pins then these are available at a modest cost.

Pickbuster

We would recommend treating every cylinder with Pickbuster, and we outline instructions for this at the back of this booklet.



Step 1

Arrange the cylinders in pairs or in the combinations you want to key alike. We suggest using the UAP Pickbuster Block is the easiest way of laying out all of your cylinders.



Step 2

From the cylinder you are keying, take off 1 of the keys from the keying (ideally not any with the label). Place the key in the vice, and start to cut off the top fluting lengthways.



Step 3

Once finished you will have 2 key parts. The top fluting and the bottom keyway. Discard the top fluting part. Ideally you can recycle this as metal waste.



Step 4

Place the cylinder to be keyed in the Vice. Now use the steel Picks to remove the 2 circlips. Place the Picks either side of the blind circlip and pull apart. It will open easily. Retain the clip for re-use.





Step 5

Now open the jaws of the vice, and insert the Cylinder Jig. Let the 2 round metal bars rest on the top of the vice. The spring mechanism should be on the outside of the Vice as shown. Insert the retained key half in to one side of the cylinder.



Step 6

Turn the key 90 degrees only.



Step 7

Offer the key up to the Cylinder Servicing Jig. You are going to lift the spring clip as far as it will go and then insert the clip above the cut key as far as it will go.



Step 8

Once the clip is put inside the cylinder gentle turn the Key a further 90 degrees, so that the key is now 180 degrees to where it started. Now allow the barrel of the cylinder to fit into the Cylinder Servicing jig.





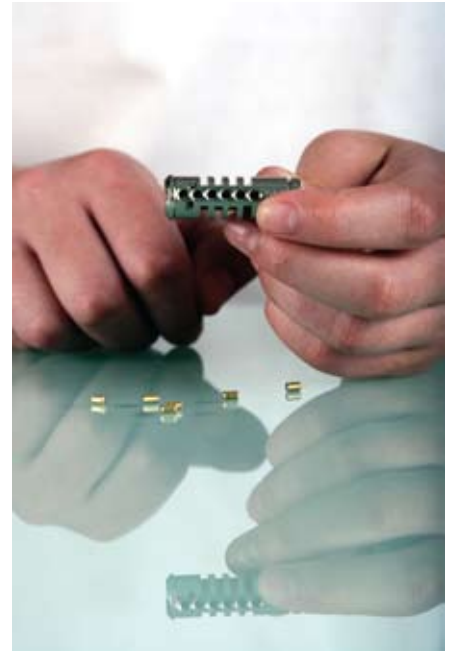
Step 9

Note the position of the central Cam. You can mark the cylinder barrel if you like. The clip of the Cylinder Servicing Jig is now holding the springs and the bottom pins in place. So you can now slowly and carefully withdraw the Plug from the cylinder barrel.



Step 10

Fully withdraw the Plug head and then remove the pins by turning upside down. You can re-use these pins. If the cylinder you are using had a label on one of the keys then this tells you what size pin each one is, and you can then replace in your pin box. There are 9 pins sizes in all labelled 1 to 9. The labelling works from the inside of the plug towards the end of the plug where you insert the key. These are known as Pin Holes A to F. So a pin combination 987546 will have a Pin size 9 in hole A (nearest the circlip), a size 8 in hole B and so on.



Step 11

Insert one of the keys from the cylinder you are keying to. If it has a label then insert the correct number pin in the holes starting from hole A to hole F. If there are no numbered labels then start with a number 5 pin and change until the pins line up exactly across the shear line. Remove any excess with a file.



Step 12

Now refit the plug carefully sliding into the barrel. Make a note of the Cam and make sure it is in the same position that it was when you removed the plug previously. You may need to wiggle the cam slightly for the clutch to engage in the plug end.



Step 13

Re-fit a circlip onto the plug end to keep it in place. Gently close it either using your fingers or the Circlip pliers supplied in the kit.



Step 14
 Now lift the Spring on the Cylinder Servicing Jig and move the plug head 90 degrees. Do this either by holding the barrel and moving it, or by putting pressure on the cam and trying to move that. Be gentle and patient at this stage.

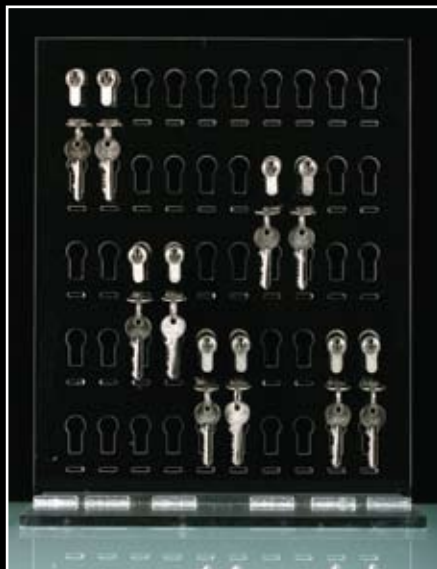


Step 15
 Withdraw the cylinder from the Cylinder Servicing Jig and put in the end of the new key. Turn the barrel fully. Now ensure that the circlip is properly closed up.



Step 16
 Now test the new key in the lock to ensure that it works and the operation is smooth. Once happy, repeat for the second side of the cylinder.

● HINTS AND TIPS TO KEY IT EASIER ●



• PICKBUSTER BLOCK

If you are going to key alike regularly then invest in the Pickbuster Block. It makes organising your cylinders and the keyed alike process simple.

Each block can hold up to 50 cylinders in 5 rows of 10.



• PICKBUSTER TREAT YOUR CYLINDERS

Once you have keyed alike your cylinders, then treat them with Pickbuster.

Not only does this lubricate the lock, but also adds extra bump resistance to your product. Just spray Pickbuster into the cylinder for 1 second.



• LOOK AFTER YOUR PINS

All the pins and circlips are reusable, so it will mean that you can help save the environment and money. Even if you do ruin a cylinder then strip it down, keep the pins, keep the plugs and barrel as useful tools for checking cylinders etc.

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