

# The Law Lock Tools Ltd ABS MASTER dimple impressing system

## Instruction set V1.0



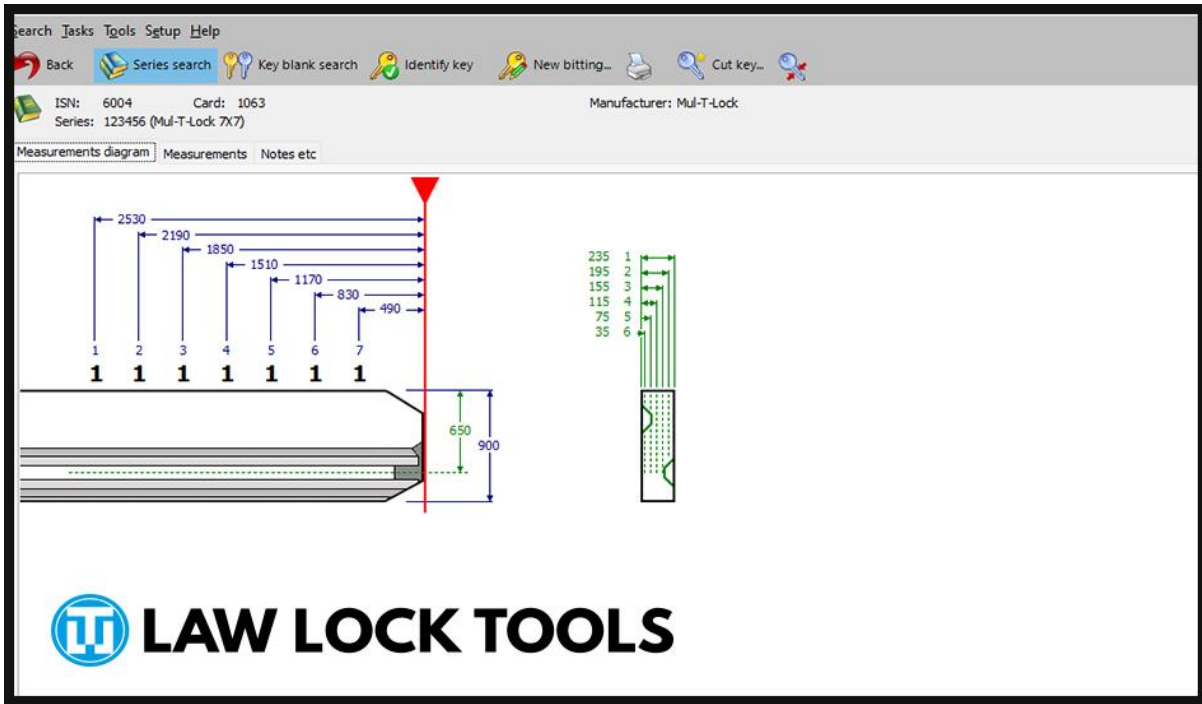
### A brief overview of the ABS MASTER locks

The ABS Master cylinders are a dimple lock available in a number of security platforms including euro profile, rim cylinders and padlocks.

In the UK the key has a floating active pin on the key tip. The locks are also made under different brand names in other countries and the floating pin can be in other positions. As far as I am aware the adjacent cut to the floating pin is never normally deeper than a number 4 cut. This is because the cutter would damage or be damaged by the floating pin if it were any deeper.

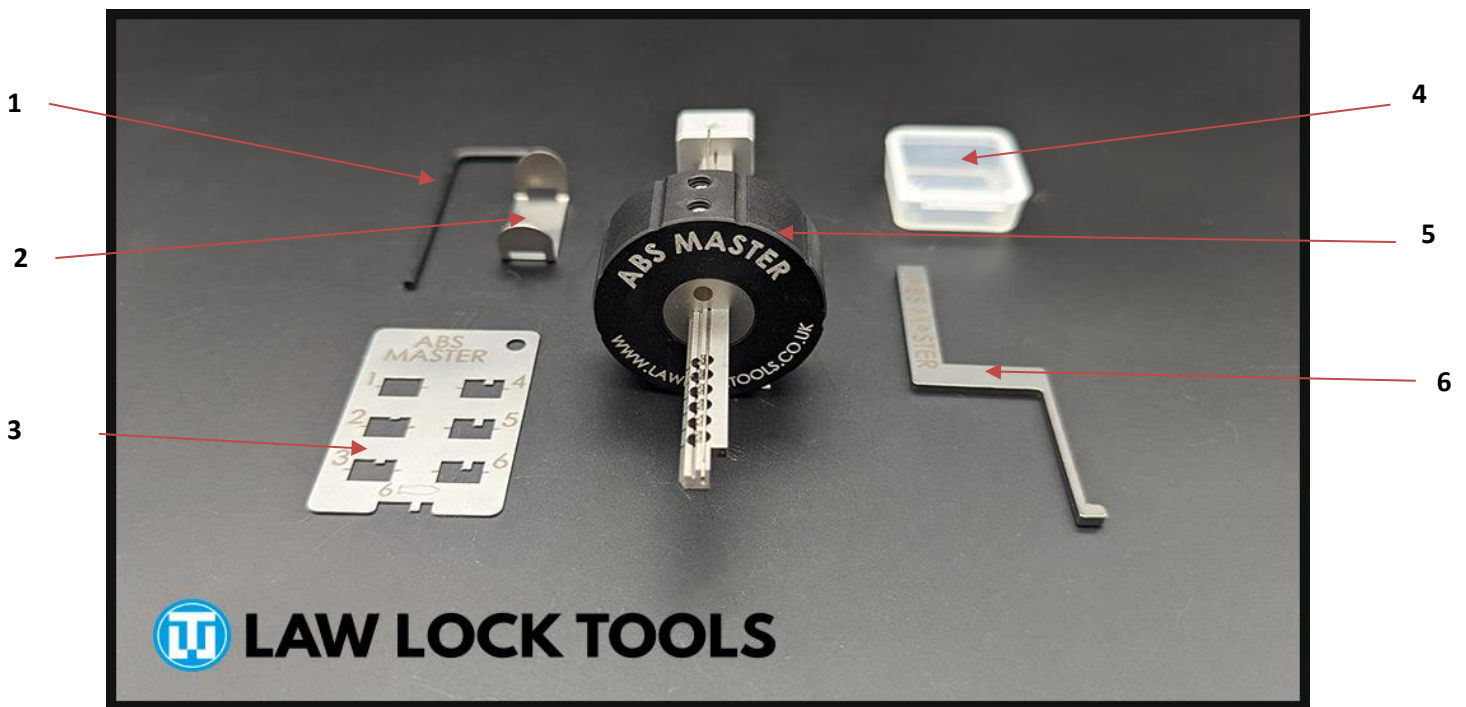
The ABS Master locks share the same depth and space as the Mul-T-Lock 7x7 and the same pins including the notorious Bomb or Torpedo number 6 pins. They have a different key profile than Mul-T-Lock.

See below screenshot for reference-

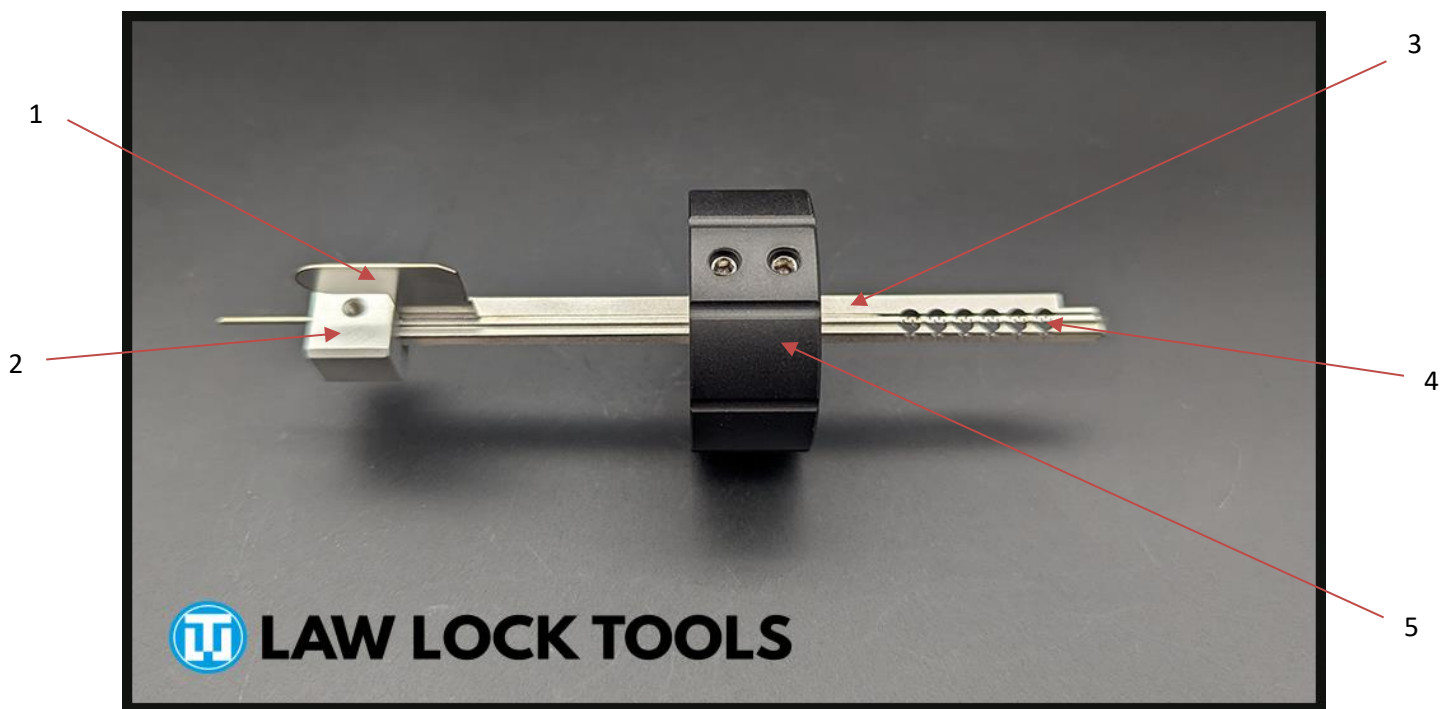


## ABS Master dimple impressing system

The ABS Master system is supplied with the following.



- 1- Allen key 2.5mm
- 2- Reset cap
- 3- Decoder card
- 4- Spare impressing pins x 6
- 5- Main ABS Master impressing system
- 6- Tension Tool



The main ABS Master dimple impressing tool consists of the following parts-

- 1- Lift Strip
- 2- Rear Collar
- 3- ABS Master dimple decoder key blade
- 4- Impressing pins
- 5- Main Handle

Before using the tool ensure the impressing pins are all in place and level with the top side of the decoder key blade.

## Opening Procedure

Insert the the tool into the lock with the tension tool along side the key tip. The tension tool has a flag type tip to activate the floating pin when tensioning anticlockwise. Then slide the slider fully to the rear of the tool and use the following method-

1. Apply medium tension to the tension tool in the ANTICLOCKWISE direction.
2. While the tension is applied turn the main tool ANTICLOCKWISE until it stops then release the main tool and back off the tension tool. **(DO NOT apply heavy torque on the main tool)**
3. Continue the above steps until the lock opens or we start to get a deeper false set.
4. If at this point the lock feels like it's in a deep false set and almost open extract the tool and look for the deepest pin or pins. The number 6 torpeado type pins do not impression all the way down like the other pins. We overcome this by pushing the deepest cut down to the next position using the bottom of the key decoder card. Re insert the tool and continue and the lock should open. If you have more than one deep cut you would have to run the possible combinations to fully decode and open the lock.

To extract the tool you must slide the slider fully forward to lift all of the key pins out of the holes in the key blade tip. You can now remove the tool and it will retain the key code until its reset. You can also re insert the tool to operate the lock again if required. Just be sure to slide the slider forwards again to insert and back it off again to open the lock.

Once the lock is fully impressed you can turn it in any direction however you must activate the floating pin with the tension tool by turning that anticlockwise at the same time as turning the tool clockwise or anticlockwise.

## Decoding Procedure

Once open you can read the bitting on the tool using the decoder card supplied. To decode all positions start with the deepest number code on the card and work your way down and check if the key blade sits level with the top of the decoder card cut-out. Take a note of the correct code for each position to assist with cutting a new key to code later if required.



It is also possible to use the key decoder card to set the impressing pins to a known code and use the tool as a MUK (Make Up Key) Just be sure to keep the card centred and at a level 90 degree to the impressing pins so as not to dislodge them if you pushed from one side etc.

## Reset Procedure

To reset the impressing pins first pull the slider to the rear then using the reset cap slide it over the key blade. I find it easier to do this if you hold it by the ends between your thumb and index finger and squeeze it slightly. Align the dot on the reset cap with the dot on the main tool see below-





Now using the Allen key provided gently push the impressing pins back into the start position. Take care not to over set the pins and to push into the middle of the pin and keep everything nice and square in relation to each other. If you push them at an angle, you risk dislodging them.



## Replacing the impressing pins

The tool is supplied with a full set of spare impressing pins. They can become worn over time and are classed as a wear part that will need to be replaced occasionally

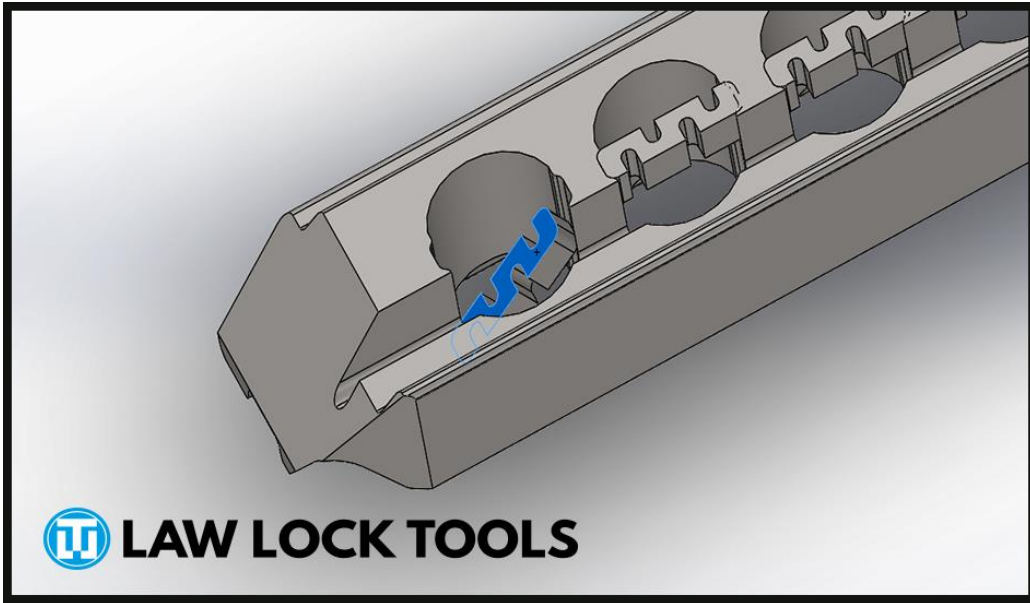
To replace the pins you will need a clean flat work surface with good lighting a pair of needle nose tweezers (not supplied) the Allen key supplied and your spare pins. I have also found using a bench top magnifier helps a lot here. I find it easier to just back off the 3 grub screws and disassemble the whole tool. That way you can lay the key blade flat on a hard surface.

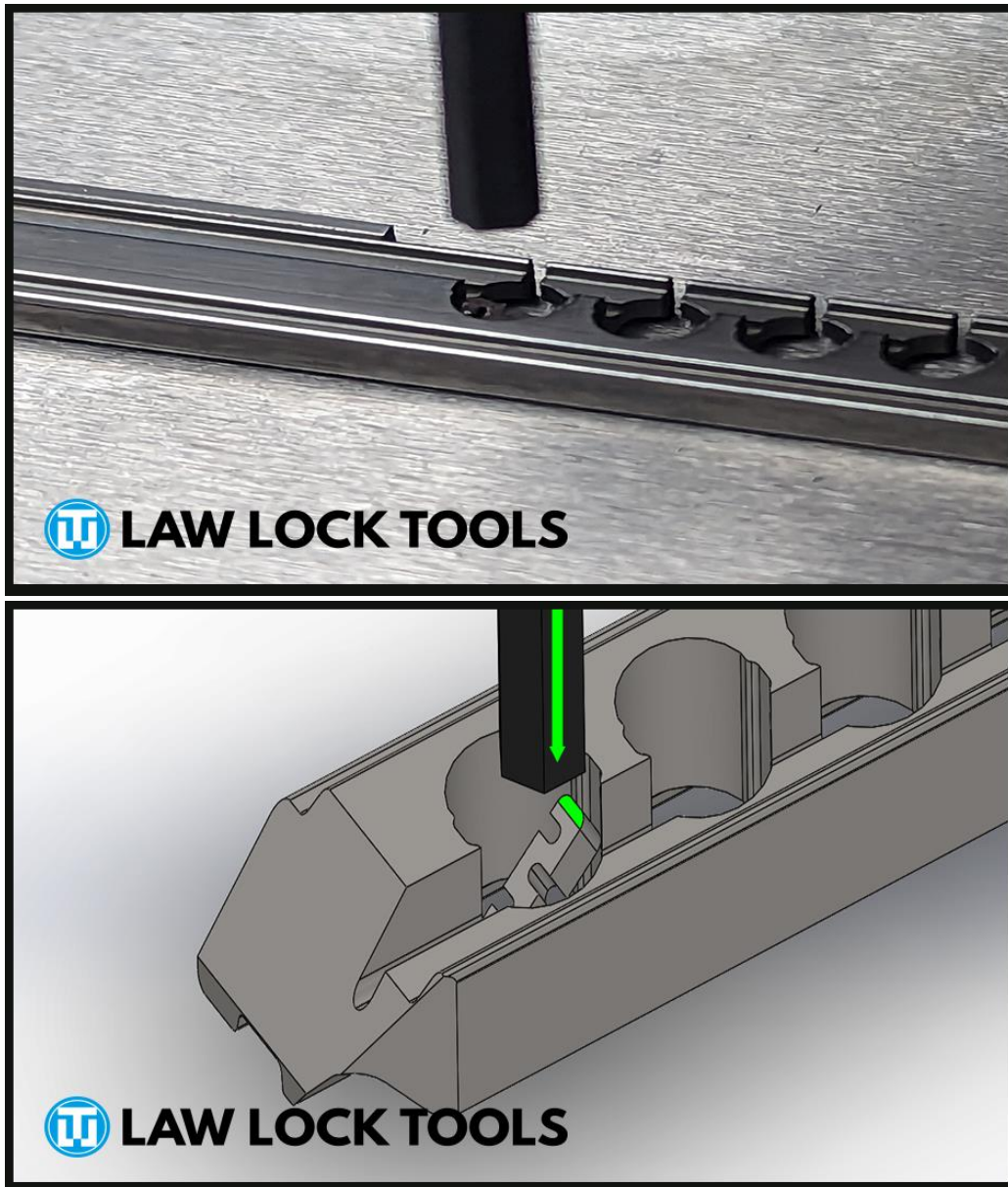




Place the new impressioning pin into the hole on a slight angle of about 45 degrees. (See generic images below with pin highlighted blue) You will notice that the holes have a groove either side to locate the pins into. Once you are sure they are in the groove using the tip of the closed tweezers push the upper end down slightly to hold it steady. Now using the Allen key continue to push the pin from the upper edge of the pin straight down into the final position in the hole.







Now using the Allen key continue to push the pin from the upper edge (highlighted green above) of the pin straight down into the final position in the hole.

Once in place check the pin is not damaged and is sitting nice and level. If it has been damaged replace it with another one. Now flip the key blade over and carefully push the pin back in the opposite direction. Repeat this 4-5 times to bed the new pins in place until they feel smooth.

Now re assemble the tool taking care not to over tighten the grub screws and be sure the slider travels back far enough to expose all the pins and not too far forward that it extends beyond the key blade.

Check out the video link <https://youtu.be/sGY8QrHtzQk> demonstrating how to replace the pins-

## Hints & Tips

**DO NOT** apply heavy torque on the main tool. This may be tempting but you are risking damaging the tool and voiding any warranty.

All you need to do is apply medium tension with the tension tool to bind any pins not yet set and turn the tool **ANTI CLOCKWISE** once. Turning the tool clockwise or away from the pins will not achieve the desired results.

These systems work by exploiting tolerances between the bound pins and the movement of the key tip while forcing the impressing pins against bound key pins to set them a little closer to the correct depth.

Do not apply any oil or grease to the tool it's not required. Keep the tool clean and dry and it should last a long time.

**When inserting the tool place your finger on the key tip to be sure the strip is flush with the key blade.**

**When sliding the slider forwards again wiggle the black handle left and right slightly. This helps the process and prevents damaging the strip.**

**It's a good idea while learning the proper method to extract the tool after say 5 -10 turns and check if the pins are moving. If they don't seem to be moving apply heavier tension with the tension tool and a little more torque on the main tool. Continue and check again until you see some movement so you can dial in the correct amount of force required.**

**Always cycle new pins up and down 4-5 times to bed them in so they move smoothly.**

**DO NOT** set the impressing pins the wrong way around! If you reset them with the reset cap on the wrong side of the key blade they will be at their deepest. They will not move up into a bound key pin only down. Remember dot to dot on the reset cap.

