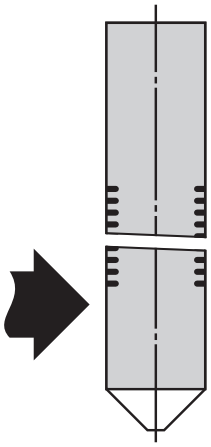
Cylinders *continued*

To assure that the plug is properly seated you can pinch the key to remove the first time. If it removes easily the plug is properly seated. If it won't withdraw, use the keying tool to seat the plug again.



The basic rules to follow with this product are to use a key with as little wear as possible to set the lock, and to never set more than six locks with the same sample key.

When the pins are sheared they are not sheared exactly in a straight line. Because the diameter of the pin chamber must allow free travel of the pin, it is larger than the pin. When the breaking force is applied to the pin it tilts a little inside the pin chamber before it shears. That means that one side of the pin is generally higher than the other.

As that higher edge passes under the pin chamber wall the pin is pushed into the bottom of the key cut. Each time the key is used to set a lock this happens and makes a dent .0005" deeper than the cut you started with. That is why the same sample key shouldn't be used to set more than six locks.

The 376 keying tool is designed to assist in setting a lock to a key and other devices not specifically designed for the UP series products should not be used.

Cylinder Service Procedure

Older style ProSeries® cylinders and most other Master Lock cylinders may be serviced with the metal follower in the 291 pinning kit or via the service holes in the bottom of the shell. Some very specific steps must be followed when rekeying via the service holes but after the first time the rekeying can be accomplished more quickly than using a follower.

This procedure will work on cylinders that have a crimp retainer as well as cylinders that use a clip retainer, but will not work on EDGE™ cylinders.

1. Hold the cylinder with the service holes up.
2. Insert a working key and rotate 180°.
3. Remove existing bottom pins via service holes.
4. Rotate plug 90° Clockwise.
5. Remove old key and insert new one.
6. Rotate plug Counter-Clockwise 90°.
7. Insert new bottom pins to match new key combination.
8. Rotate plug 180° and remove key.

If you are rekeying and Master Keying the cylinder, complete disassembly with a follower is recommended as that will allow the removal of extraneous master pins from the bible as well as the plug.

Cylinder Service Procedure *continued*

All ProSeries® locks are supplied with a six pin length cylinder for uniform keying capability. The ProSeries® cylinder may be combinated with 4, 5, or 6 pins to accommodate existing key codes.

Pin chambers in this cylinder are drilled from the shell into the bible. Care should be exercised to avoid turning the plug 180° because, at that point, the bottom pins will align with the service holes on the bottom of the shell and could be lost.

1. The plug is held in the shell via a crimp in the end of the shell. This crimp prevents removal of the plug from the shell unless you have a Master Lock plug follower with a flat on it.

2. The bottom of the plug is undercut at the keyway to allow it to bypass the crimp. The Master Lock plug follower is designed to fit the end of the plug and automatically align with the crimp in the shell.

3. To remove the plug, turn it 90° counterclockwise and, with the special plug follower, push the plug from the shell.

Once you have changed the pinning combination, insert the plug into the shell.

Effective mid-2001, the crimp retainer was replaced with a new design E-clip. To service the current cylinder, remove the E-clip and then follow step 3 above. This running change replacement eliminated the crimped retainer for the plug in all ProSeries® 6000 and 7000 keyway cylinders. This new design cylinder was also supplied with a new key design. The new keys have radiused blade bottoms and the section stamping includes a suffix "B" for ease of identification (see 23).

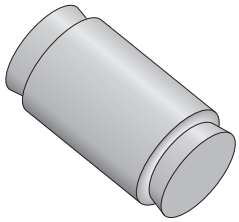
Rekeyable Cylinders					
No. of Pins	Keyway	Part Number by Cylinder Length			Keying
		4 Pin	5 Pin	6 Pin	
4	K1	294W1*	294W1*	296W1	KD
4	KWP4	294WP4*	294WP4*	296WP4	KD
5	K15	N/A	295W15	296W15	KD
5	K17	N/A	295W17	296W17	KD
5	K27	N/A	295W27	296W27	KD
5	K81	N/A	295W81	296W81	KD
5	K600A	N/A	295W600	296W600A	KD
6	K700A	N/A	N/A	296W700A	KD
5	K6000	N/A	N/A	296W6000	KD
6	K7000	N/A	N/A	296W7000	KD
6	KWP6	N/A	N/A	296WP6	KD

* Includes extension for a 4 pin cylinder in a 5 pin lock

NOTE: For KA or MK, insert that specification in front of the 'W' in the above part number.
For Zero Bitted, use suffix 'KZ' with above part number

Servicing the BumpStop® Mechanism

Cylinders containing the BumpStop® mechanism pin have one different component than standard cylinders and may be rekeyed when required. That one different component is the BumpStop® top pin. It is longer than a typical top pin and will only let the cylinder operate correctly when it is placed in a correct pin chamber.



The table below indicates where the BumpStop® pin may be used in the different types of locks. The letter X in the table indicates a cut depth that isn't available in the product or a cut depth that isn't compatible with the BumpStop® pin.

Cut #	Master Doorlock	Master Padlock	Padlock KIK	American Padlock
0	X	BUMP STOP	BUMP STOP	X
1	BUMP STOP	BUMP STOP	BUMP STOP	BUMP STOP
2	BUMP STOP	BUMP STOP	BUMP STOP	BUMP STOP
3	BUMP STOP	X	X	BUMP STOP

When rekeying you need to figure out which pin chamber has the BumpStop® pin in it and be sure to change where it is for the new combination of the new key.

For example, if you have a cylinder that was keyed to the combination 42645, the BumpStop® pin would be in the second pin chamber. If your new key has a combination of 54624, you would need to move the BumpStop® pin in the cylinder from the second to the fourth pin chamber.

Failure to move the pin will certainly make the cylinder vulnerable to a Bump Key attack and may make it impossible to even insert some cut keys because of the extra length of the BumpStop® driver pin.

Dump The Bump Pin

A good practice when keying a cylinder with BumpStop® technology is to always dump the Bump Pin. That way when you rekey it you can always put it into a valid location.