DETERMINATOR™
BMW 1

The BMW 1 **DETERMINATOR**™ set works on BMW products using the X59 and X144 key blanks. When used properly you will be able to generate a key for a vehicle in just a few moments.

There is one tool in the BMW 1 **DETERMINATOR**™ set.

In 1985 BMW changed from the X59 to the X144 key blank. Prior to 1985 the door lock contained tumbler positions 1-8. Decode the door lock, once you get a properly working key in the door you can either impression or progress spaces 9 and 10 from the ignition. In 1985 BMW added a "Dead lock" feature. This system added extra spaces in the door lock. The door contains spaces 1-11. The door lock on this system contains 2 different mechanical operations. The first operation works on spaces 1-7. This operation will allow the car to be locked and unlocked in a normal manner. With the door cylinder turned to the locked position, 2 o'clock, it would return to the 12 o'clock position, the door would be locked, but it could be "jimmied" open. You can originate a key with these 7 spaces that would work all the locks, door, trunk and ignition. These 7 spaces would not work the "Dead lock" feature. That's where spaces 8-11 come in. With the proper cuts in spaces 1-11 the door lock cylinder could turn further to lock the door, all the way to the 3 o'clock position and removed at that position. With the door lock in this position, the car was considered "dead locked" In this position the car is extremely difficult to open. You need a properly cut key with positions 1-11 to turn the door lock back to the unlocked position.

RULES

All locks are Bi-directional (tumblers on top and bottom)
NO 4 depths next to a 1 depth. MACS =2.

1984 and prior
Door locks contain spaces 1-8
Ignition lock contains space 1-10
Any space can have a 4 depth, MACS=2

1985 and up
1st feature - normal locking procedure space 1-7 door
2nd feature - Dead lock feature spaces 1-11 door
Ignition, trunk, glove box, spaces 1-7
Dead lock feature - spaces 8-11 had no 4 depth and adds to 7 or 9.

THE TOOL

The **DETERMINATOR**™ is a decoding tool and a tumbler release tool.
The **DETERMINATOR**™ works by trapping the 3 and 4 depth tumblers. It will pass the 1 and 2 depth tumblers.
The **DETERMINATOR**™ has numbers stamped on the blade. These numbers correspond to the tumbler space locations. When the **DETERMINATOR**™ traps a tumbler, take note of the number closest to the face of the lock. That is the space being determined as a 3 or 4 depth cut. You will then use the release tool to raise the trapped tumbler. Slide the release tool along the slot milled in the side of the tool, sloped end first. You will feel it raise the tumbler, slowly pull the **DETERMINATOR**™ out a little to the next space and remove the release tool.

When the **DETERMINATOR**™ traps a tumbler you know that is a 3 or a 4 depth tumbler. Spaces that pass you will know are a 1 or a 2 depth tumbler. You can make your cuts as 1 ½ depths and 3 ½ depths and use it as a try-out key, **OR** you may want to make your cuts as 1 depths and 3 depths and then impression down from there. You should try both ways and see what works best for you.

The BMW 1 Determinator™ uses the regular release tool.

X59 KEY WAY, 1975 -1984

STEPS

1. Degrease the passenger door lock with a quick drying spray and run a key blank in and out a few times.
2. Insert the **DETERMINATOR**™ fully into the door lock.
3. Slowly pull the **DETERMINATOR**™ out of the lock with a slight left and right motion.
4. When the **DETERMINATOR**™ traps a tumbler, take note of the space, and record it as a 3 depth (or a 3 ½ depth.)
5. Use the release tool and proceed to the next space.
6. Decode BOTH sides of the door lock. Record only the spaces that get trapped.
7. When you are done decoding BOTH sides of the lock, then ANY space that <u>DID NOT</u> trap you will make as a 1 depth (or a 1 ½.)
8. Cut a key, insert it into the lock and turn. You may want to use your impressioning pliers for a little more torque. Use your locksmithing judgement on how far to turn the key.
9. Look for impression marks. If a space that had a 1 (or a 1 ½) depth marks make it a 2 depth. If a space that had a 3 (or a 3 ½) depth marks make it a 4 depth.
10. Adjust your cuts as necessary. You will now have working key for the door lock.
11. Once you have spaces 1-8 working properly in the door lock, you must impression or progress spaces 9 and 10 from the ignition.

X144 KEY WAY, 1985 AND UP

NOTE: In most cases space 8, even though it may be a 3 depth, will not trap in the **DETERMINATOR**™ due to the construction and operation of the door lock housing. Concentrate your efforts on spaces 1-7.

STEPS

1. Degrease the passenger door lock with a quick drying spray and run a key blank in and out a few times.
2. Insert the **DETERMINATOR**™ fully into the door lock.
3. Slowly pull the **DETERMINATOR**™ out of the lock with a slight left and right motion.
4. When the **DETERMINATOR**™ traps a tumbler, take note of the space, and record it as a 3 depth (or a 3 ½ depth.)
5. Use the release tool and proceed to the next space.
6. Decode BOTH sides of the door lock. Record only the spaces that get trapped.
7. When you are done decoding BOTH sides of the lock, then ANY space that <u>DID NOT</u> trap you will make as a 1 depth (or a 1 ½.)
8. Cut a key, insert it into the lock and turn. You may want to use your impressioning pliers for a little more torque. Use your locksmithing judgement on how far to turn the key.
9. Look for impression marks. If a space that had a 1 (or a 1 ½) depth marks make it a 2 depth. If a space that had a 3 (or a 3 ½) depth marks make it a 4 depth.
10. Adjust your cuts as necessary. You will now have working key for the door lock.
11. Once you have spaces 1-7 working properly in the door lock, it should work the glove box, doors, trunk, and ignition*.

* In some early models, the ignition may contain spaces 1-10, it is very rare. If you run into one of these, you will need to impression space 8-10 from the ignition.

If you wish to make the "Dead lock" portion of the key on spaces 8-11 you will need to impression these last four spaces. The **DETERMINATOR**™ will not trap spaces 8-11 in this system. Spaces 8-11 **will not** have a 4 depth. Spaces 8-11 will add to either 7 or 9.

FRAMON CUTTING INFORMATION

DETERMINATOR	CUTS START	CUT TO CUT	DEPTHS			
BMW 1	.106	.083	1=.327	2=.303	3=.280	4=.256
			1½=.315	2½=.292	3½=.268	

HPC CARD   XF34 for codes HB 10,000 up
             XF33 codes HB 1000-5000