

# DETERMINATOR™

## VOL 1

The VOL 1 **DETERMINATOR™** set works on all Volvo vehicles using the X140/X80 key blanks. When used properly you will be able to generate a key for a vehicle in just a few moments.

There are two tools in the VOL 1 **DETERMINATOR™** set. One is stamped with a “T” and is used to trap the tumblers located in the top of the lock. The other is stamped with a “B” and is used to trap the tumblers located in the bottom of the lock.

### 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 side of 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 it 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 cuts as 1 ½ depths and 3 ½ depths and use it as 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 VOL 1 Determinator™ uses the regular release tool.

### 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™** stamped with the “T” fully into the door lock with the trap facing **up**.
3. When the **DETERMINATOR™** traps a tumbler, take note of the space, and record it as a 3 depth (or a 3 ½).
4. Use the release tool and proceed to the next space.
5. Continue until you have decoded all the spaces in the top of the lock. Record only the spaces that get trapped.
6. Insert the **DETERMINATOR™** stamped with the “B” fully into the door lock with the trap facing **down**.
7. Slowly pull the **DETERMINATOR™** out of the lock with a slight left and right motion.
8. When the **DETERMINATOR™** traps a tumbler, take note of the space, and record it as a 3 depth (or a 3 ½).
9. Use the release tool and proceed to the next space.
10. Continue until you have decoded all the spaces in the bottom of the lock. Record only the spaces that get trapped.
11. When you are done decoding BOTH sides of the lock, then ANY space that DID NOT trap you will make as a 1 depth (or a 1 ½).
12. Cut a key and 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.
13. 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.
14. Adjust your cuts as necessary. Widen space 9 for the ignition. You will now have a working key for the vehicle.

**HINT:** When in doubt if a tumbler trapped, cut it shallow and impression down.

### FRAMON CUTTING INFORMATION

DETERMINATOR	CUTS START	CUT TO CUT	DEPTHS			
VOL 1	.098	.099	1=.323	2=.296	3=.269	4=.243
			1 ½ =.310	2 ½ =.282	3 ½ =.256	

HPC CARD - XF52/CF52