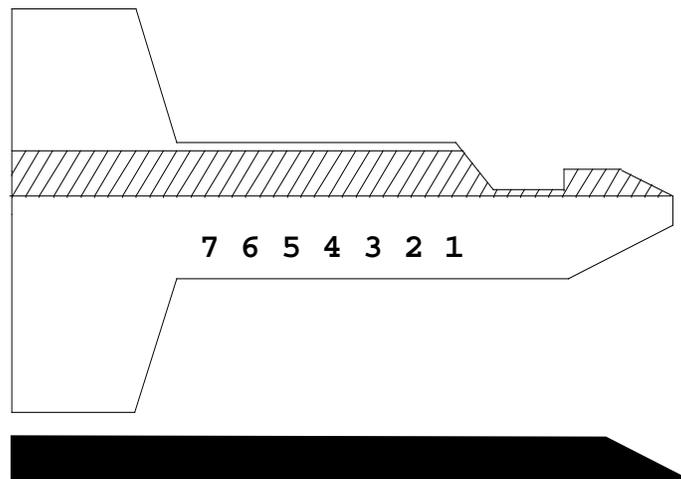


# The Determinator

## HANDBOOK



*[www.TheDeterminator.com](http://www.TheDeterminator.com)*

# THE DETERMINATOR

## Handbook

The information in this handbook will help you originate keys for vehicles in a quick and timely manner. The Determinator decoding tool is very simple to use and by following the instructions and these tips you will find your success rate much higher.

As a Locksmith you must have an understanding on how automotive locks work. Understanding how bi-directional locks work is a must. You should have some impressioning skills as well. Do not expect a great deal of success if you try to use the Determinator for the first time on a job without going over the instructions or getting a feel for the tool. You should allow yourself some practice time before using on a job. Make sure you read and understand the instructions.

### **ALWAYS FOLLOW THESE RULES**

1. Make sure you read and understand the instructions.
2. Take your time .
3. Record your findings while you are at the vehicle.
4. Clean the lock out with a good degreaser that dries fast.
5. Cut your EVEN spaces on one side of the key and the odd spaces on the other side.
6. WIDEN the cuts.
7. Use a code machine that allows you to do rules 5 and 6. A Framon or HPC Code machine will leave a nice clean and clear cut.

These rules are very important. If you follow each of them you will do just fine. The most important key is the first key when originating keys. By following these rules you will find that you will be able to pick up impression marks quite easily.

Below are two keys for the same lock. It's a GM 10 cut key on the B86 keyway.  
Key One has both sides cut with all the spaces 3 through 9.  
Key Two is cut with the EVEN spaces on one side and ODD on the other.  
Can you find the impression marks as easily on Key One as compared to Key Two?



Can you pick up the marks? Are you sure of the marks? Can you tell what spaces they are on ?



Can you see the marks on Key Two? You can examine each space quickly and see the marks much better on Key Two as compared to Key One.

With the nice WIDE CUTS and the EVEN SPACES on one side of the key and the ODD SPACES on the other the impression marks are much easier to see.

Spaces 3 and 4 have the impression marks.

**Follow these rules on ALL the keys you make with the Determinator.**

Making a key for a GM, Ford, Nissan, Toyota or ANY type is the same.

## FOR 2 Determinator

The FOR2 Determinator works on the strattec locks with spaces 1 through 6 in the door lock. It is a fairly simple lock system that is easy to make keys for. There is a lot of play in the locks so half cuts are NOT recommended. There are 2 Decoding tools in the FOR2 Determinator set.

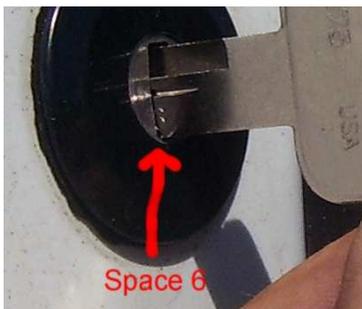
"3" Key traps tumblers with a 3 4 or 5 depth.

"B" key traps tumblers with a 4 or 5 depth.

Any space that does not trap with either tool is an "A"

**Make sure you READ AND UNDERSTAND the instructions that come with the Determinator.**

Clean the door lock with a good degreaser. Ford locks tend to have a lot of grease in them. This grease needs to be cleaned out for the tool to decode the locks properly.



Insert the "3" tool with the trap facing up. Here it trapped right away. You can see space 6.

THE DETERMINATOR™									
1	2	3	4	5	6	7	8	9	10
					3				
1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10

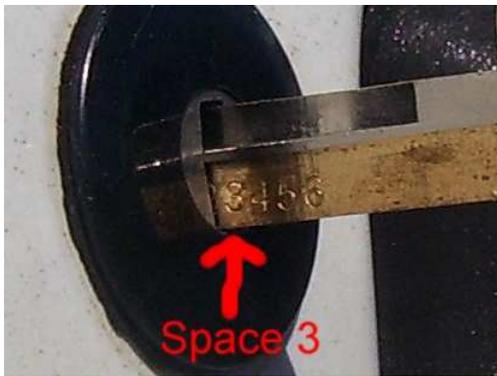
Space 6 trapped with the "3" tool. You know now that the EVEN Spaces are on top. Put a "3" in space 6. Anything that traps with the "3" key put a "3" in that space.



Use the release tool on the milled side of the key to release the trapped tumbler. Finish decoding the lock with the "3" key.



Here you can see space 2 is trapped. You will put a "3" in space 2 on your chart pad.



Space 3 trapped with the "3" key

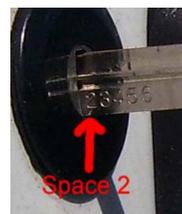


Space 1 trapped with the "3" key.

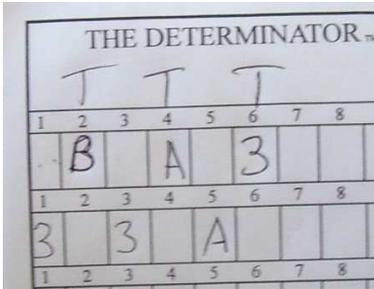
THE DETERMINATOR™

1	2	3	4	5	6	7	8	9	
	3		A		3				
1	2	3	4	5	6	7	8	9	
3		3		A					

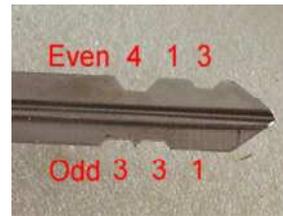
Put a "3" in every space that trapped with the "3" key. Spaces that did not will be an "A"



Now use the "B" key. Here you can see that space 2 is trapped.



Space 2 was the only space that trapped using the "B" key. Change the "3" that was in space 2 to a "B". Cut your "A" 's to a 1 depth. Cut your "3"'s to a 3 depth. Cut your "B" to a "4" depth.



Here is your first key. Put the **EVEN** spaces on one side and the **ODD** spaces on the other. Take note on how the **WIDE** the cuts are.

**Make sure you read and understand the instructions with your DETERMINATOR. There are "RULES" to follow. One of the Rules for FOR 2 is that on your chart, If you have an "A" cut right next to a "B" cut, the "A" will always be a 2 depth and the "B" will always be a "4" depth. In our story case here we did not have the combo, but it is common so look out for it.**



Use your vise grips and try the key in the lock. It may turn hard. Use Locksmith knowledge on how much torque to use.



You can clearly see an impression mark in space 2. Space 2 was "4" depth. You know now that it is a "5" depth. Make sure to make your cuts **WIDE**.



You can see a real good mark in space 5. It was a 1 depth. You will cut it down to a 2 depth. Widening the cuts makes it easier to see the impression marks.

THE DETERMINATOR							
T T T							
1	2	3	4	5	6	7	8
	B <sub>4</sub>		A <sub>1</sub>	3			
1	2	3	4	5	6	7	8
3		3		A <sub>1</sub>			
1	2	3	4	5	6	7	8
3	5	3	1	2	3		

Space 2 was a 4 depth. It had a mark so you will cut it down to a 5 depth. Space 5 was a 1 depth. It had a mark. You will cut it down to a 2 depth. Your final cuts in the door are 353123.

Try your key in the door locks to make sure it is working properly. Now you can put all 6 cuts on BOTH sides of the key. Test it in the door locks again.

35311212	353
35311242	353
35312112	353
35312135	353
35312232	353
35312324	353
35312423	353
35312454	353
35312432	353
35313134	353
35313134	353

Now look up your door cuts, 353123 on the Determinator FORD Charts. You will find that there is only one combination with the door cuts that we have. Space 7 and 8 will be a 2 and a 4.

### SUMMARY ON THE FOR 2 DETERMINATOR

1. Always put your even spaces on one side of the key and the odd spaces on the other side.
2. DO NOT use half cuts. "A" cut to 1 depth, "3"s cut to a 3 depth, "B" cut to a 4 depth.
3. WIDEN your cuts so it will be much easier to see the impression marks.

# GM WAVE KEYS

The GM WAVES are a special set of keys that come with the GM1 Determinator set. By following the instructions you will be able to pick over the ignition using these keys. These keys work on the B86 keyway and they will also work on the new B106 keyway.

There are three different types of ignition face caps.



Round Cap



Plastic Cap Big Ears



Small Rubber Ears



There are five keys in the WAVE KEY SET.  
Each key is cut different on each side.



First you must pry off the face cap. *Gently* and using common sense. Most pop off quite easily.



Insert an old pick at the 7 o'clock position where the side bar is. You need to put pressure on the sidebar.



Insert a Wave key and while you pull the key in and out turn it left and right. Again use some common sense.



As soon as it picks, you can remove the pick and turn to the ON position.

**You must keep pressure on the sidebar as you work the key in and out, and while turning left and right. You can ease up on the pressure on the sidebar and reapply during this process.**



You must gain access to the retainer. On top of the shroud use an ignition as a guide to the retainer.



You can drill a small access hole. Gently take your time and drill the small hole.

*OTHER ways of doing this is by pulling the shroud apart or using an "L" shape tool from the front of the lock to hit the retainer. DO what your situaion calls for.*



Hold the cylinder in the "crank" Position, then push down on the retainer, you will feel the ignition jump out a little, it will turn back a bit, then pull the cylinder out.



Here you can see the keycode. S0286. Cut key by code and insert the cylinder back into the housing.

**Practice with the wave keys a few times. You will soon get a good feel for them and then you will be able to pick and remove these ignitions with no problems.**

Some ignitions with the ROUND face cap and with the BIG plastic ears, have a metal ring that goes around the cap to help hold it on. You must break or cut this ring to get the face cap off. I took an old flat blade screwdriver and used my dremel tool to sharpen the end of it.



Work the screwdriver tool back and forth while you push the sharp end of it into the metal ring. Soon you will feel and see it cut through.



The metal ring broke. Now you can pry the face cap off. It will hold and stay on without this metal ring. Do not cut yourself with either the tool or the metal ring.

## MIT1 Determinator

The MIT 1 Determinator works on the Mitsubishi X263 key way. It is a very simple system to make keys for. There are 4 depths and 8 spaces in this system and half cuts work well in it.

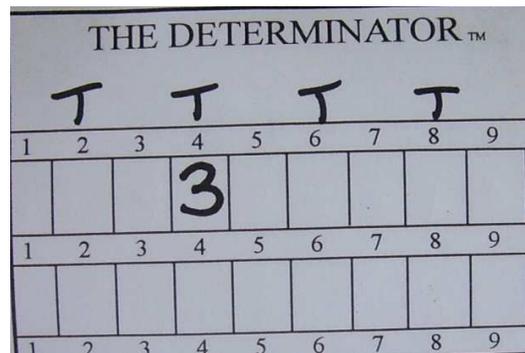
When the MIT 1 Determinator traps a tumbler, you will know that it is either a 3 or 4 depth tumbler. Spaces that passed will be 1 or 2 depth tumblers. I like to make my first key about 5 to 9 thousandths deeper than a 1 or 3 depth. Not a half cut. Doing it this way I find it easier to see the impression marks. Remember to put your odd spaces on one side and the even spaces on the other. WIDEN your cuts.

**REMEMBER TO READ AND UNDERSTAND THE INSTRUCTIONS THAT COME WITH YOUR DETERMINATOR.**

Clean the lock out with a good cleaner. Then proceed.



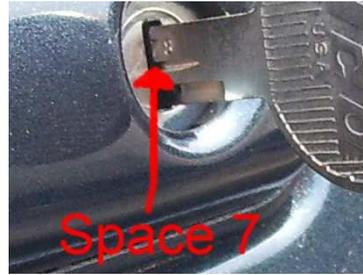
With the trap facing up insert the Determinator. Slowly pull it out. Take note of any space that traps. Here space 4 traps.



Put a 3 in space 4. You also know now that the even spaces are on top. Put a "T" above the even spaces.



Use the release tool to release the trapped tumbler. Finish decoding the top. Nothing else trapped on the top.



On the bottom side you can see that space 7 is trapped. You will put a "3" in space 7.



Space 5 Traps.

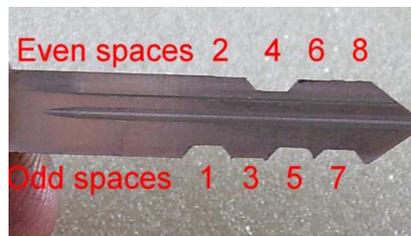


Space 1 traps.

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	T	T	T	T					
1	2	3	4	5	6	7	8	9	10
	1	3	1	1					
1	2	3	4	5	6	7	8	9	10
3	1	3	3						
1	2	3	4	5	6	7	8	9	10

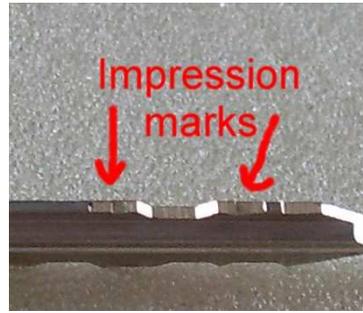
Make your chart. Put a "3" in every space that trapped. And a "1" in every space that passed.



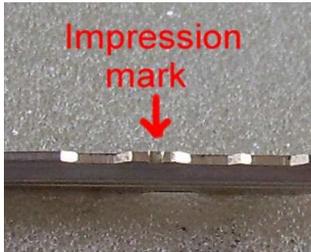
Put your EVEN spaces on one side and ODD spaces on the other side. Make your cuts WIDE.



Use your vise grips and your impressing skills as you turn the key.



Here you can clearly see impression marks on spaces 2 and 6. With the WIDE cuts you can pick up the marks.

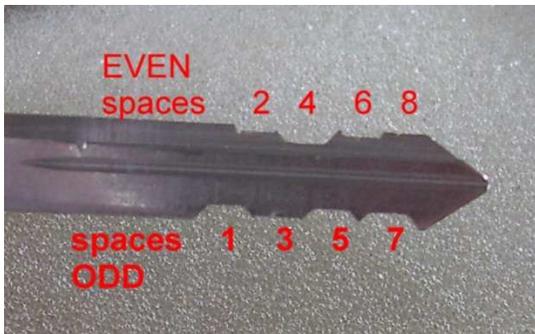


You can see space 3 has a mark. Wide cuts are very important!

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	T	T	T	T				
1	2	3	4	5	6	7	8	9
	2		3		2		1	
1	2	3	4	5	6	7	8	9
3		2		3		3		
1	2	3	4	5	6	7	8	9

Make your changes to your chart.



Cut your key and try it in the locks. Check for any more marks and make any necessary adjustments.



Here is the final key.





4. Space 2 trapped, you know that it is a 3 or 4 depth tumbler. Put a 3 on your chart.

5. Finish taking your readings. Here you see that space 5 is trapped on the bottom.

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	T		T		T		T		
1	2	3	4	5	6	7	8	9	10
	3		3		1		1		
1B	2	3B	4	5B	6	7B	8	9	10
1		1		3		1			
1	2	3	4	5	6	7	8	9	10



6. Here is what we came up with for our readings. See how we separated the even spaces from the odd. Top and bottom.

7. Cut your first key with EVEN Spaces on one side and ODD spaces on the other side. Widen your cuts. **This is VERY IMPORTANT!**

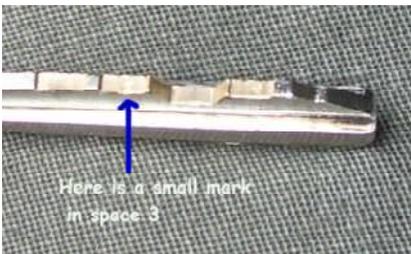
**I don't use half cuts in the doors. I will cut my key just about 5 to 9 thousandths shallower than a full depth of 1's and 3's.**



8. Use your vise grips and go back and forth a few times. Use common sense on how much torque to apply.



9. You can clearly check each space for marks. Space 2 has a very good mark. Since it was a 3 depth we will cut it down to a 4 depth.



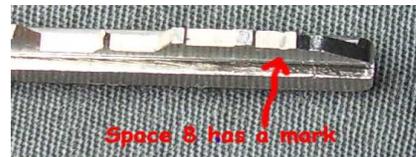
10. There is also a small mark on space 3. It was a 1 depth now you will make it a 2 depth.

	T		T		T		T		
1	2	3	4	5	6	7	8	9	
	4		3		1		1		
1B	2	3B	4	5B	6	7B	8	9	
1		2		3		1			
1	2	3	4	5	6	7	8	9	

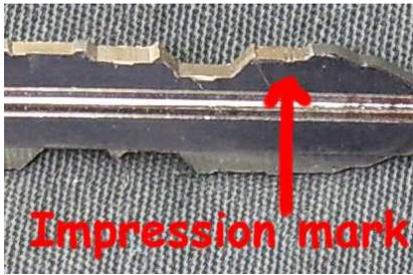
11. Make your changes on your chart pad.



12. Try to turn the key again. As soon as you feel it starting to turn STOP! Don't force it. You are only trying to get marks.



13. Check each space for marks. You can see space 8 has a clear mark.



14. You can see marks on space 7.

1	2	3	4	5	6	7	8	9
4		3			1		2	
1B	2	3B	4	5B	6	7B	8	9
1		2		3		2		
1	2	3	4	5	6	7	8	9

15. Make your changes to your chart and you can cut a new key with the exact depths.



16. Test your new key in the doors and then you can progress space one from the ignition.

	T		T		T		T	
1	2	3	4	5	6	7	8	9
4		3			1		2	
1B	2	3B	4	5B	6	7B	8	9
1		2		3		2		
1	2	3	4	5	6	7	8	9
1	2	3	4	5	6	7	8	9
3	4	2	3	3	1	2	2	

17. Here are the final cuts of the key. Space 1 progressed to a 3 depth.

### SUMMARY ON THE TOY 2 DETERMINATOR

1. Always put even spaces on one side of key and odd space on other side.
2. WIDEN YOUR CUTS
3. Space 4 and 7 have split wafers, if they trap you will use 2 release tools.
4. Don't use half cuts in door, cut your first key about 5 to 9 thousands shallower than a full cut.
5. As soon as you feel the key starting to turn, STOP. Pick up your marks.
6. If you are having trouble releasing a tumbler, sometimes it is easier to push the Determinator all the way into the lock, insert the release tool then pull the tools out.