

Photo Story

Volvo Ignition

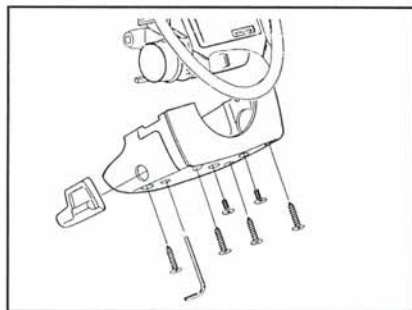
by
Hank Spicer



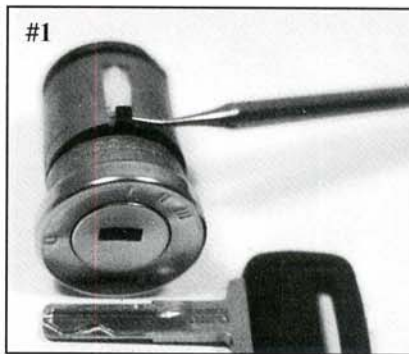
In 1988, Volvo started using high security locks on the 760 and 780 models. In 1991, the 900 series and in 1992 the 850GLT were added. From 1988 through 1992, they used die cast tumblers in these locks, and these tumblers are not holding up under heavy use and abuse. The largest percentage of problems is with the ignition cylinder. The second major problem is with the driver's door cylinder, since these are the two lock cylinders that receive the most use.

In 1993, Volvo stopped using die cast tumblers and is currently using stamped tumblers similar to Mercedes and BMW. In this story, we will show both ignition lock cylinders and how to service them.

Although the outside appearance is different, the new ignition cylinder is interchangeable with the old cylinder and can be rekeyed to the customer's key. Auto Security Products has a new keying kit #A32-102 which contains both die cast and stamped tumblers for rekeying these locks. There are also space and depth keys available for the making of a first key when the keys have been lost. You will need a sidewinder key machine in order to cut these keys.



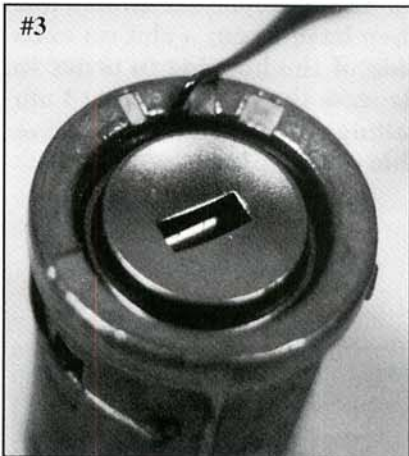
The first thing you want to do when working on the ignition is disconnect the battery cable. You do not have to remove the steering wheel. The picture above shows how to remove the shroud. The



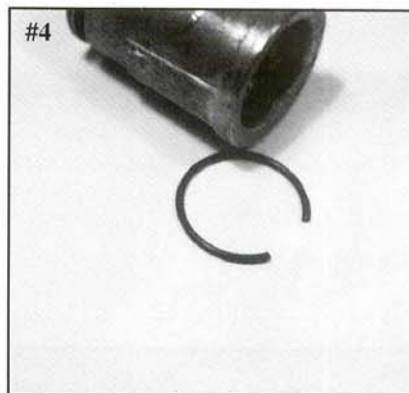
The lock cylinder is out of the car. The pointer shows the retainer which you must depress in order to remove the cylinder from the car. To depress it, you must turn the plug from 0 to 1. If you cannot get the plug to turn, you will have to drill under the retainer and you will be shown how to do this in these pictures.



To disassemble this cylinder, or drill it, you must remove this face cap. The cap can be removed with the lock in the car. If you are just going to rekey this lock, replacement caps are available.



There is a wire "O" ring here which must be removed.



This picture shows the "O" ring removed.



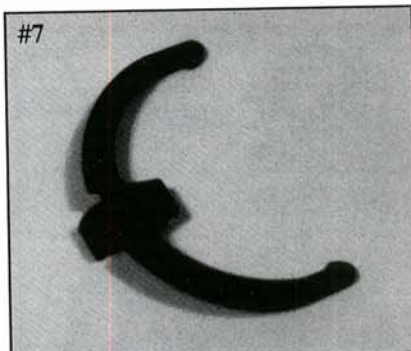
Remove the hardened face plate and the rings behind it, as shown here. At this point, you would be ready to drill the plug as I will explain in picture seven.



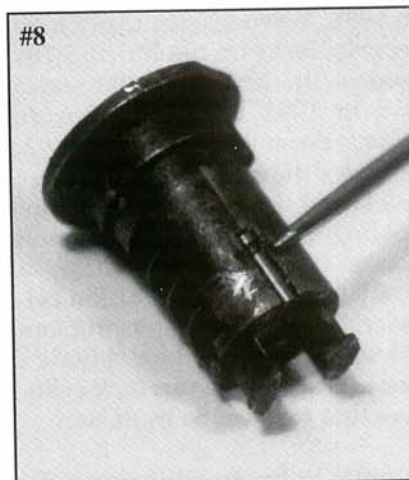
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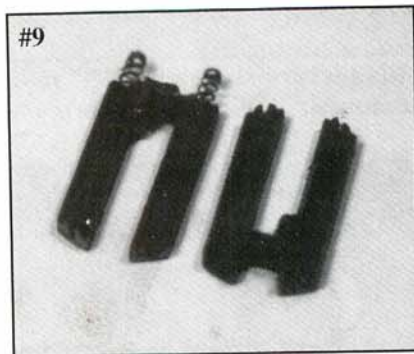
#6
Before we get to drilling, this picture shows that now the plug will come out the rear. Be careful that the tumblers don't fall out. Also, be careful of the two roller bearings at the front of the keyway. You will now be able to rekey the plug.



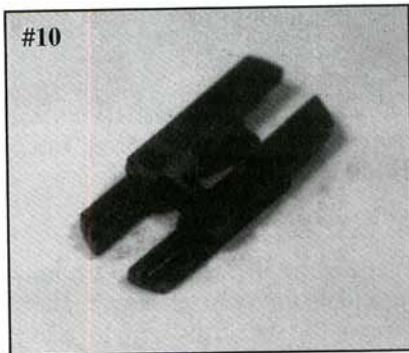
#7
Shown here is the retainer which must be depressed. The only part which goes into the plug is the center piece and it is spring-loaded, keeping the flanges on the sides up into the lock housing. If you try to drive the retainer in with a punch and hammer, you will break it. This leaves the two side flanges up, holding the cylinder in. You will then have to cut a slot on each side of the housing in order to depress the flanges. What I am telling you is *do not* try to drive this retainer in.



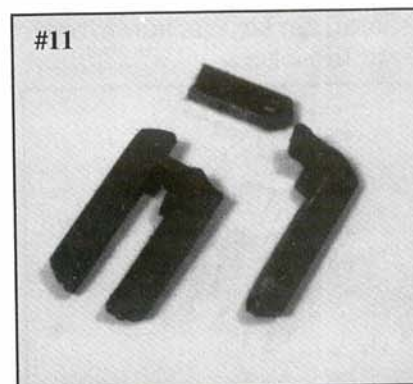
#8
The pointer in this picture is showing a hardened steel pin which protects the plug from having the retainer driven into it. You will not be able to drill through the pin. Drill straight under this pin with an 11/64-inch drill bit about one inch in. Drop this pin out of the plug. You will now have an opening for the retainer to drop into. Do not try to punch this pin out. It is designed to break away and will leave the back part of the pin still in, protecting the plug from the retainer.



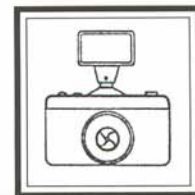
#9
The two tumblers shown here fit together with the springs showing on the left tumbler. Both tumblers fit into one chamber in the plug. These are die cast tumblers.



#10
This picture shows how they fit together.



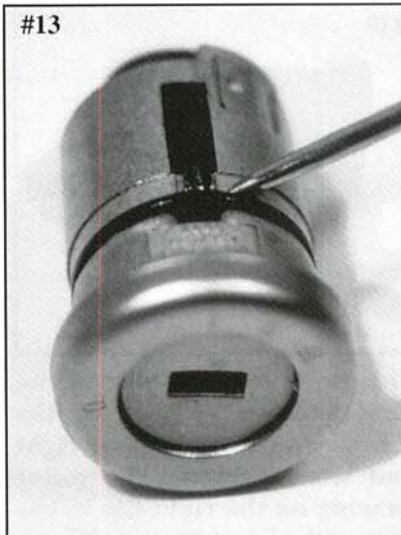
#11
Shown above is how the tumblers are breaking. They cannot stand a lot of use and abuse. Because of this, there will be a lot of work for the locksmith on these cars.



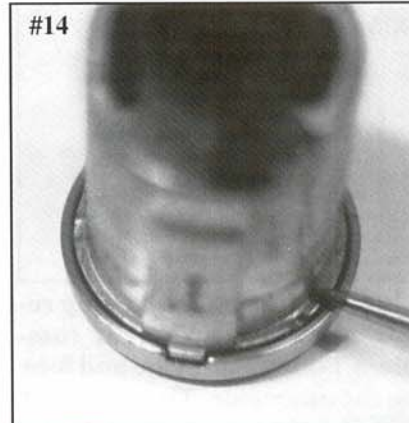
Volvo Ignition



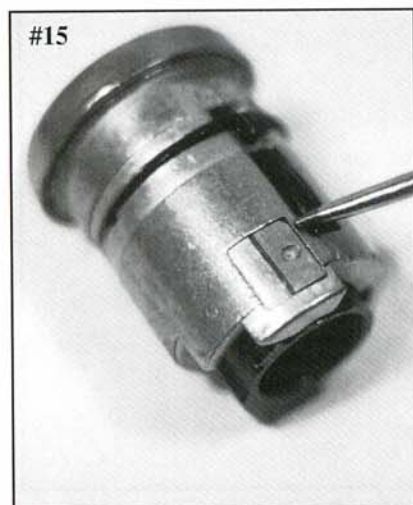
This is the new lock cylinder for the 1993 Volvo. It is also the replacement ignition lock cylinder for all high security Volvos from 1988 and up. The number is 9133366-6. The Silca blank, #NE66P, can be used for the old and new door and ignition, and you can rekey the lock to the customer's key before installing it in the car. This lock cylinder uses stamped tumblers. This cylinder has a list price of \$45.



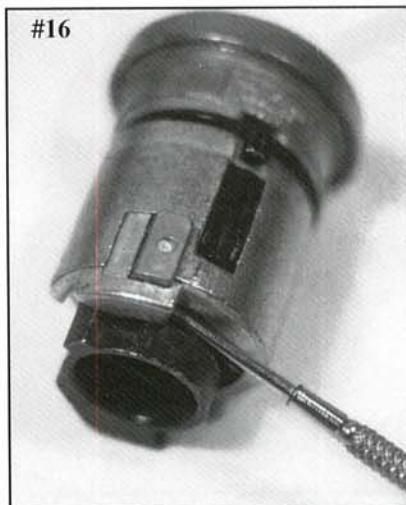
The pointer shows the retainer. It is the same type as on the lock cylinder from 1988 through 1992. You must turn the plug to the number 1 position in order to depress it. *Do not* try to drive it in.



This face cap is held on by a large spring-type "O" ring. You do not need to remove this cap in order to remove the plug for rekeying.



The pointer is showing the location of the retainer which holds the plug in the case.



Using the small jeweler's screwdriver shown here, slide it under the retainer (as shown) and lift it up.



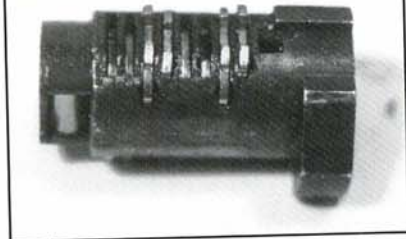
The plug will now slide out the back as shown.





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#18



This picture shows the plug removed. There are eight tumblers. Four on one side and four on the other side. The number 1 and 2 and the number 5 and 6 are on one side, while the number 3 and 4 and the number 7 and 8 are on the other side. They are staggered in pairs.

#19



This pointer shows one of the new tumblers with the depths stamped on it. You will see right and left tumblers. The roller bearing on the right fits in the plug at the front. We won't have the breakage problem with these locks, however, we have five years of the older type of locks on the street. This lock cylinder is much easier to take apart and rekey.

#20



Drilling this lock is easier than the older ones since they did not put a hardened roll pin under the retainer. I use a Dremel tool and cut the face ring in half as shown. When you drill a Volvo lock cylinder and remove it, remember that when you are installing the new cylinder, you must first turn the tailpiece inside the lock to the #1 position in order to get the cylinder in.

#21



Remove the hardened face plate shown here.

#22



The pointer indicates where to drill the plug, angling slightly upward, and back about 5/8 to 3/4 of an inch. This should create a cavity into which the retainer can be depressed, thus allowing the lock cylinder to be removed.

#23



In our final picture, the retainer is in the slot, allowing the cylinder to be removed.