How to fix a VDO Kienzle Clock
Read all of this before starting.
-Once the clock is removed from the car you must remove the chrome trim ring. The trim ring houses the faux glass clock cover, so be careful not to crack the plastic! I would suggest studying the ring so you are familiar with how it mounts to the housing. Hold the base of the clock and turn the ring, this will help loosen it a little. The part of the chrome that wraps around the base of the clock, the portion facing the dash cannot be seen when the clock is in the car, this is the area I pry about a 1 inch area of the chrome lip up using a small (eye glasses type) screwdriver.
-Put the base of the clock in a vice and tighten it just enough to make it temporarily ovalize. At this point you should be able to pop the chrome off (this is the hardest part of the entire procedure).
-Once the ring is removed, turn the clock over and remove the three small nuts with a slot screwdriver or pliers. There may be some green paint, or a plastic piece on these nuts, just scrape it off. Once this is removed push the clock out of the housing using the electrical contact. At this point, you should have six washers, three that go inside and three that go under the nuts, put them aside.
-Inside you will find a series of gears and a coil and a couple of springs. There is a steel disk about ¾ inch in diameter near the rear end of the clock which has an electrical contact mounted under it. When this electrical contact is closed, current is sent to the coil, which spins the steel disk around about ½ turn. This is how the clock is wound. The disk is spring-loaded and will slowly over the course of about 2 minutes return to its original position - operating the clock as it goes around. When the contacts close, the process starts all over again. For this reason, this clock only uses power for a fraction of a second every 2 minutes. You can turn the disk manually and see how this all works. The rest of clock works like a regular clock with all of the gears, etc.
-These clocks have a built-in fuse, which is normally the cause of the clock not working. Right next to the coil is a set of metal tabs, which should be soldered together. With the clock facing you, 12 at the top, the tabs are located at the top of the clock against the back piece of circuit board material. It is a little copper piece of metal with a hole in it. This connects to the top of the coil. It works like a spring, when the solder melts it pops to the back of the clock disabling power to the coil. If your clock is not working, chances are that these two tabs are no longer soldered. The process to repair it is simple: re-solder the connection. To do this correctly, you need to use a low temperature solder (solder with a fusing point of 120C or 248F). Using regular solder is an option that will work fine, but someday your clock will really get fried because the tab fuse didn't melt like it was supposed to. When you solder the two tabs together, be sure that the top tab is pulled down (so it is spring loaded) to meet the other tab and then soldered. Don't try to bridge the large gap because this spring loading is what helps to separate the tabs when the fuse melts.
-I used regular solder and am currently in the process of assembling an in-line fuse, which is external to the clock, making it easier to replace in the future.
-Well, that's about it! Spray the entire clock mechanism with wd40 (chances are it is seized up from not moving). Clean out the black dust inside the housing, pop the clock back in (don't forget the washers) and pop the chrome on. With a small hammer and punch you can bend the chrome lip back. Adjustment of the clock speed is made by the

small brass slot screw, which protrudes through the rear cover. Counter-clockwise goes faster, it seems each 1/8 of a turn affects the clock by about 5 minutes per day.
-If this doesn't fix your clock there is a possibility that the coil or the resistor is burned out. These clocks are pretty rugged and generally the mechanism (gears & springs) will not wear out. If you want to test the clock outside the car, find a low amperage 12volt power source (4-6 amps). The electrical contact on the rear is the positive and the housing of the clock is negative. When you apply power the wheel will wind and ticking can be heard. My inline fuse idea is being held back by not knowing what amp fuse to use. The circuit in the car has an 8.5 amp fuse on it. I am waiting to get the car assembled and will probably start with a 1amp fuse and work my way up until I stop blowing fuses.