

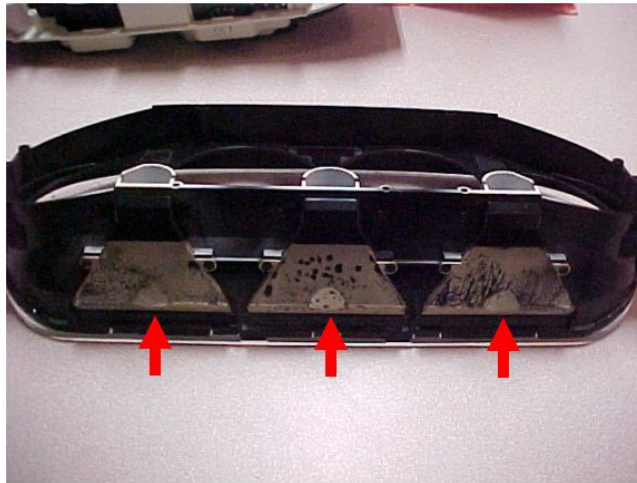
## **ELECT-08, Instrument Panel Lights**

### **Introduction**

Instrument panel illumination has long been a problem area. Primarily for late model 944 owners (1985.5 and newer). The most common misconception is that Porsche simply didn't put bright enough bulbs in the instruments. That may be partially true. According to the Porsche PET, the bulbs are 12 VDC, 3 watt bulbs. However, I've never seen any bulbs come out of a cluster that were anything but 12V 2 watt bulbs. There are a wide range of higher wattage bulbs available for the late model gauge clusters. However, for the early 944 gauge which us a #37 bulb, there aren't really any options.

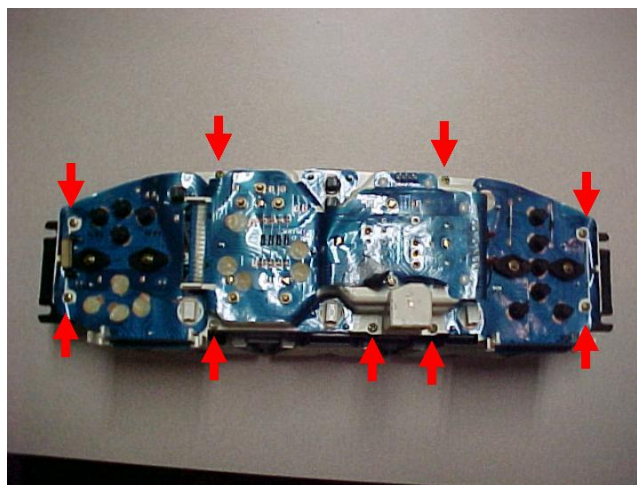
Quite often, late model 944 owners will attempt to alleviate their low light problem by installing the largest wattage bulb they can find (typically 4-5 watts). It doesn't take long to figure out that this course of action by itself is a mistake. The 4-5 watt bulbs draw too much power. So, the bulbs tend to overheat and burn out very quickly. The other problem here is that the higher wattage bulbs produce so much heat that they will melt the bulb holders. Consequently, the largest wattage bulb that should be used in the 944 instrument panel is in the 3-4 watt range. See the table below for bulb recommendations.

Now, going to a larger 3-4 watt bulb alone may not provide a significant improvement in illumination. The other problem that occurs with the dash lighting is related to the individual bulb holders. The instrument bulb holders are clear and are coated on the outside with a silver reflective material which intensifies the light from the bulb. Over time, this coating tends to flake and peel off the outside of the bulb housing or get scraped off if the cluster has been removed causing degraded instrument illumination. To fix this problem, you need to remove all of the old reflective material from the outside of the bulb housing and replace it with some type of new material. If your housing is not scratched or flaking, a bulb change may be all you need to fix your illumination problem.



If you find that your bulb holder reflective surface is scratched or peeling and you don't want to try and fix it yourself, you can order a new lens assembly. 944Online.com (<http://www.944online.com>) sells the assembly in their new parts section (approximately \$99 plus shipping). If you have a Porsche dealership close by, the part number is 944 641 941 01. The current price at the Porsche dealer (08-15-05) is \$95.12 USD and if you pick up at the dealership there's no shipping.

To determine if your gauge cluster lens assembly is damaged, you'll first need to remove the instrument cluster from the dash ([Early Cluster Removal](#) or [Late Cluster Removal](#)). To remove the old reflective material from the bulb housing, DO NOT attempt to remove the reflective assemblies from the lens housing. I did however, removed the lens assembly from the instrument cluster to prevent damaging the gauges while cleaning the bulb holders. There are nine (9) Phillips head screws on the back of the assembly which hold the lens assembly to the instrument cluster.



Use some type of solvent to remove the reflective material but, do not use anything that will damage the plastic housing. I used non-acetone finger nail polish remover which worked very well. You might also try model paint thinner. If the coating is peeling badly you may be able to peel the coating off with an exacto-knife. However, I don't recommend it. Do not sand the material off as it will scratch the surface of the housing and adversely affect the reflective ability of the new coating. The pictures below show the process of removing the old reflective coating (nail polish remover and paper towel) and the

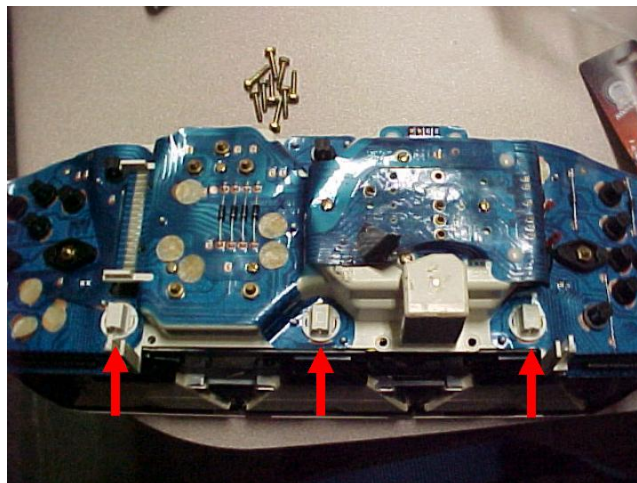


After the old coating is removed from the housing, apply a new coating to the housing. Several things have been suggested for use as a new coating. The most common is aluminum foil attached to the housing with double-sided clear tape or clear adhesive. Another suggestion was to paint the outside of the housing with silver or chrome model paint. Personally, I tried painting the housings with silver metallic enamel first which did not work well at all. So, I removed the paint and used aluminum foil (shiny side toward the housing). This worked much better. I didn't have any double-sided clear tape or appropriate adhesive so, I simply taped the foil to the housing using masking tape. Down

the road, I'll probably go back and use double-sided clear tape. However, it's still a good idea to tape over the back of the foil to protect it and keep it from getting torn.



As a side note, I am personally using the Sylvania 194 bulbs (3.78 watts). Along with refurbishing the bulb holder coverings, this provides a good improvement in illumination. Originally, I tried a Sylvania 161 bulb (2.66 watts) as that is what comes installed in aftermarket Autometer gauges and I wanted to have the same level of illumination from all my gauges. However, I found that the factory instrument cluster requires a higher wattage bulb to achieve the same level of illumination as the Sylvania 161 bulb in an Autometer gauge. The Sylvania 194 along with the bulb cover refurbishing gave (in my case) the same level of illumination. Depending on how well your refurbishing job is done (and mine wasn't done all that well), you may have to play around with different bulb wattages to get the same level of illumination as your aftermarket gauges. Also, if you decide to replace the lens assembly with a new assembly you'll likely be able to use a lower wattage bulb. I've provided some bulb recommendations below. However, there are many other bulb wattages available. Your local auto parts store (NAPA and CarQuest in particular) will have a book that contains a listing of all the bulbs and wattages available. The location of the bulb holders on the back of the cluster are shown below.



<b>Bulb Recommendations</b>			
<b>Manufacturer</b>	<b>Bulb Number</b>	<b>Wattage</b>	<b>Comments</b>
Sylvania	158	3.3 W	Recommended. Offers a slight improvement over the factory bulbs and will not experience overheating problems. In USA, available at most NAPA and CarQuest. Not widely available at Auto Zone, Advance Auto, or PEP Boys.
Sylvania	161	2.66 W	Not Recommended. Offers little improvement over the factory bulbs. In USA, widely available at most auto parts stores.
Sylvania	168	4.9 W	Not Recommend. Likely to produce too much heat and hence burn out quickly or cause damage to bulb holder. Readily available at most auto parts stores in USA.
Sylvania	192	4.3 W	Questionable. May produce too much heat and hence burn out quickly. In USA, available at most NAPA and CarQuest. Not widely available at Auto Zone, Advance Auto, or PEP Boys.
Sylvania	193	4.62 W	Not Recommend. Great improvement over the factory bulbs but, likely to produce too much heat and hence burn out quickly or cause damage to bulb holder. In USA, available at most NAPA and CarQuest. Not widely available at Auto Zone, Advance Auto, or PEP Boys.
<b>Sylvania</b>	<b>194</b>	<b>3.78 W</b>	<b>Recommended. Overall, may be the best choice for a lighting upgrade. Offers a good improvement over the factory bulbs and does not produce too much heat. In USA, available at most NAPA and CarQuest. Not widely available at Auto Zone, Advance Auto, or PEP Boys.</b>