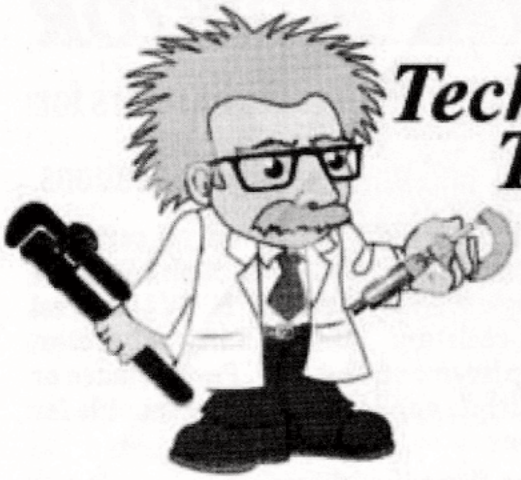

~~Restoring~~
~~Refreshing~~

Brightening Hard Rubber

by Paul Casey

This is a tough one. So far we haven't found a way to really restore hard rubber to the look that it had seventy, eighty, ninety or one-hundred years ago.

Popularly know as Ebonite or Vulcanite, it was originally developed by Charles Goodyear. He vulcanized rubber with an extremely high sulfur (30% - 40%) content. The result was a tough, black material which he hoped to use as a substitute for the extremely expensive, and difficult to work, ebony wood. Vulcanite was a popular name for this material, but today Vulcanite [CuTe] is a designated mineral (named because it was first discovered near Vulcan Colorado at the Mammoth Good Hope Mine).

Ebonite, or even more commonly known today as 'Hard Rubber' was a very popular material for all sorts of applications up until (and perhaps even after) the 1940s.

It was used as a non-heat-conductive material for pot handles and lids, it was used for saxophone and clarinet mouthpieces, it was used for the bits on tobacco pipes, it was used for bowling balls, drawer pulls, and for fountain pen bodies.

And it was used in and around automobiles. Early battery casings were made of Ebonite or hard rubber. Shifting knobs, dashboard knobs and even steering wheels were made of the material. Radiator caps, too, were sometimes hard rubber, because they would stay (reasonably) cool even when the radiator got hot.

Among the shortcomings of hard rubber is that it is, basically, a brittle material. As battery casings, it was susceptible to breakage with the resultant leakage of acid. Steering wheels cracked, pull knobs broke. Hard rubber was/is extremely affected by ultra-violet light. It fades, turns a greenish-brown and the finish becomes dull. The sulfur tends to mix with free-moisture and forms sulfuric acid (mild, fortunately) but enough to erode the rubber leaving voids and flat spots.

What can be done? Not much unfortunately. I have heard of a water-soluble dye - I have not tried it though - designed to restore fountain pen barrels to their original shiny black. It is called Pensbury Manor Black Hard Rubber Pen Potion No. 9 (website http://www.pensbury-manor.com). The stuff is not cheap - a 2 ounce bottle is about $30. If you try it, we'd be very interested in the results. Please keep us informed.

Another solution is to work with what you have. Since the outside of the rubber is most affected by the oxidation, using a mild abrasive (we recommend toothpaste) will remove a fine layer of rubber leaving a (lightly) polished surface. The finish can be enhanced with a light coating of cooking oil (not lard) which is wiped on and then wiped off. Do not use a silicone based product. It will make the steering wheel or shift knob too slippery.

The polishing will not halt future oxidation. The hard rubber will get dull again, and it will require re-polishing. Each time it is polished, though, a fine layer of rubber is removed. Please keep that fact in mind. For that reason, we do not recommend that a buffing wheel or any powered polishing method be used.

Editor's Note: I tried polishing a hard-rubber radiator cap which I had in my stock of 'junk.' First thing I did was to thoroughly wash the cap with a mild hand soap and water. That got rid of a lot of the grit and surface dirt. Out of curiosity, after reading Mr. Casey's article, I used a piece of painter's masking tape to segment the radiator cap. On one section, I applied a dab of toothpaste and polished it up with a clean towel. On the opposite side of the cap I used just a bit of Quick-Glo P-3 Ultra-Fine polish, and on the third section I used the Quick-Glo Fine formula polish. The final, fourth section I left unpolished.

The unpolished segment remained dull. The two segments polished with both the toothpaste and with the Quick-Glo Ultra-Fine did show a noticeable improvement in shine. The final segment was polished with Quick-Glo's Fine formula polish. It showed a high shine, noticeably higher than either of the other two polishes. (I did not try the 'Regular' formula which is slightly more aggressive in abrasion.)

After polishing and taking the photographs seen here, I applied a few drops of cooking oil. Once it was wiped down to get the 'oily' feel off the part, there was no appreciable difference in gloss. Perhaps a light coating of wax might make a difference. As Mr. Casey indicated, silicone-based products are liable to make the steering wheel or shift lever too slippery to be safe.

S.K.

Above: A hard-rubber radiator cap in original condition. It has been washed with a mild hand soap to remove surface dirt, but it has not been polished. Below: The same cap with three of the four segments polished. The dotted lines have been added to clarify the four segments.