

**TOBY CORPORATION OF AMERICA**  
2060 MONTGOMERY STREET; FORT WORTH, TEXAS 76107 4052  
817-731-1142, fax 817-377-3947, e-mail tobycorp@sbcglobal.net  
September 8, 2003

## REPLACING FOAM SURROUNDS

**Foam:** The flexible part of a speaker that joins the cone to the basket is called a surround. When the surround is made of foam rubber, it will rot, even when it's not played. Sunlight, ozone, and humidity are major contributors, but we have seen thousands of foam edges rot, even in sealed cartons in our attic.

**Rubber:** If the speaker is in good condition, other than the surround, we recommend replacing the foam surround with rubber. This is a somewhat delicate operation requiring 2 or 3 days in our shop. A good rubber edge will have lower coloration and distortion than foam, and in home applications will last indefinitely.

**Match:** We think it's a good idea to mend an otherwise good speaker, because that speaker should have the parameters that cause it to operate the way the engineer planned it. It should match in three ways. 1. Ideally, the woofer will match the cabinet size and type for the best bass response. 2. It will have the impedance characteristics that match the crossover components. [and] 3. It will have the efficiency and natural frequency characteristics that complement the other speaker(s) in the cabinet.

**Driver Replacement:** If your speaker has other problems, like a burned voice coil, we will try to find one of our stock drivers that will match yours as closely as possible. We will use computer measurements, if appropriate, to achieve this match.

**Repair Not Recommended:** We will not recommend repairing a speaker that has various flaws--a thin, weak cone, an off-center suspension, or a tiny voice coil and magnet. We will not attempt to repair most JBL or Cerwin-Vega speakers because their magnetic gaps are so tight that the voice coil will rub after the bad edge is replaced on most, but not all models.

**Cosmetics:** When we replace a speaker's edge, every effort is made to keep the speaker looking good, but sometimes this is not possible. We have to remove, then replace, the dust cap in the center of the speaker cone. This gives us access to the magnetic gap, where we insert a spacer--called a shim--to be sure that the voice coil remains centered. Therefore, we cannot guarantee a perfect appearance when the job is finished.

**Failure:** If we fail to make a successful repair of the speaker, usually there is no charge. If we make a successful repair to a speaker's edge, then discover some other flaw, the charge is usually 1/2. Some flaws cannot be detected until the speaker edge is repaired.

**Price:** The charge to repair two speakers at a time is \$4.00 per inch. Two ten inch speakers would cost \$40 each and \$80 for the pair. If one speaker is done at a time the charge is \$5.00 per inch. See table:

Driver Inches	Price Each per Pair	Price per Pair	Price Done Singly
6.5	\$26	\$54	\$32
8	\$32	\$64	\$40
6 x 9	\$36	\$72	\$45
10	\$40	\$80	\$50
12	\$48	\$96	\$60
15	\$60	\$120	\$75