

PHILCO SELF-CENTERING OUTSIDE SPIDER SPEAKER CONE



SERVICE BULLETIN No. 297 for members of RADIO MANUFACTURERS SERVICE

A PHILCO Service Plan

This bulletin contains the instructions for replacing a Philco Self-Centering Outside Spider Speaker Cone. The method used in mounting the cone assembly prevents any foreign objects or dust from collecting in the air gap of the voice coil.

The Self-Centering Cone Assembly consists of three main parts, *i.e.*, voice coil and outside spider assembly; cone; and felt dust cover. These assemblies are shown in Fig. 1.

For holding the cone in place, a tube of *Philco Cement, Part No. (45-2623)*, should be used. The container for the cement has a special nozzle for applying cement to the cone and housing surfaces.

Different stages in the assembly of the cone are shown in Figs. 2 to 6. In Fig. 2 the cone housing is shown with the cone removed and the mounting surfaces prepared for the new cone.

The next step is the cementing of the outside spider and voice coil in place. This is shown in Fig. 3. Fig. 4 illustrates the cone assembled on the voice coil and the points to be cemented or soldered. The removal of the voice coil gauge is shown in Fig. 5 and the complete cone assembled in the speaker in Fig. 6.

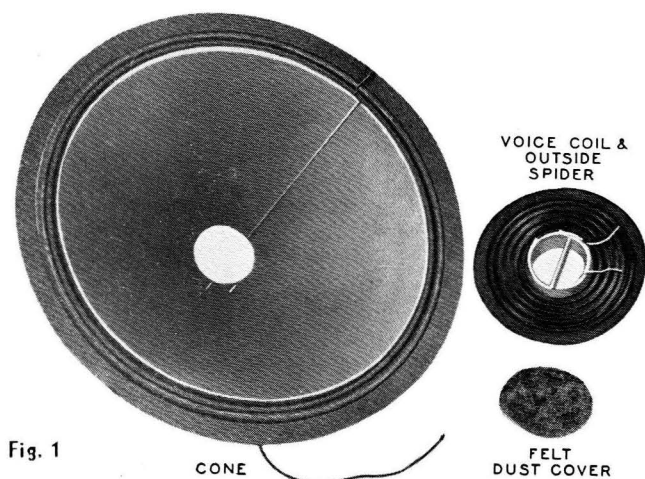


Fig. 1

The replacement of the Self-Centering Cone Assembly is a simple operation. However, there are a few important steps in the assembly of the cone which should be closely followed. To replace a cone, proceed as follows:

A. Unsolder the voice coil leads from the terminal panel and remove the old cone by tearing it from the mounting frame.

IMPORTANT—Do not scrape off the remaining paper or cement left when cone and spider are removed, as this provides an excellent cementing surface for the new cone.

If, however, the remaining paper and cement are unevenly distributed on the mounting edges, remove the large pieces of paper in order to obtain an even surface.

B. To remove any foreign objects that may have accumulated in the "air gap" when cone was being removed, insert a piece of friction tape into the "gap" and draw it about the surfaces.

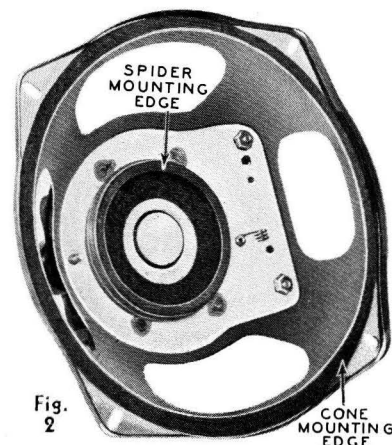


Fig. 2

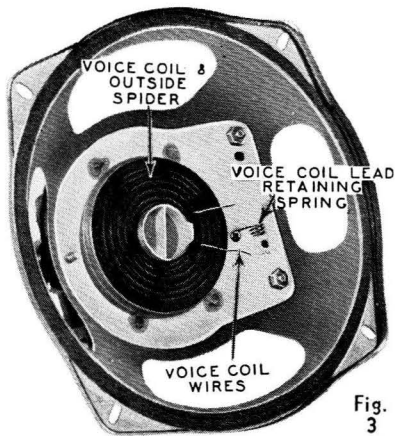


Fig. 3

C. Apply Philco cement around the spider mounting edge of the housing (see Fig. 2). Insert the new voice coil and spider assembly into the air gap, making sure that the voice coil leads face toward the voice coil lead retaining spring (see Fig. 3).

Now press the edge of the spider so that it will adhere to the surface of the mounting edge.

D. With voice coil in place, apply cement to the cone mounting edge (see Fig. 2). Insert cone over the voice coil, with the two voice coil leads facing the two cone leads as shown in Fig. 4. When the cone is properly inserted, it will set about $3/32$ of an inch below the top edge of the voice coil.

Press the edge of the cone so that it will adhere to the surface of the mounting edge.

Now, in order to attach the voice coil to the cone, apply a small bead of cement at the point where the two sections meet (see Fig. 4).

When applying the cement at this point, make sure that the cement does not run over into the inside surface of the voice coil.

After the cone is cemented in place, the speaker unit should be allowed to stand for one hour in order to allow the cement to dry properly.

For more rapid drying of the cement apply heat.

After the cement has thoroughly dried on all surfaces, solder the two voice coil wires to the cone leads at the points shown in Fig. 4, and continue with the next step.

Also insert the cone leads into the retaining spring and solder to the terminals of the transformer or terminal panel.

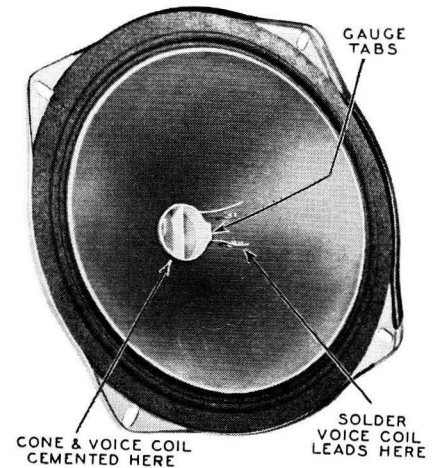


Fig. 4



Fig. 5

E. Tear the two perforated tabs from the voice coil (see Fig. 4). With these tabs removed, grasp the paper centering gauge with the thumb and forefinger and pull directly out of the voice coil (see Fig. 5).

CAUTION—Before the gauge is removed, be sure the cement is dry on all cemented surfaces.

F. The small felt dust cover is now attached to the cone as shown in Fig. 6 by applying a small ring of cement around the felt about $1/8$ " from edge.

With felt dust cover in place, the speaker is ready for use.

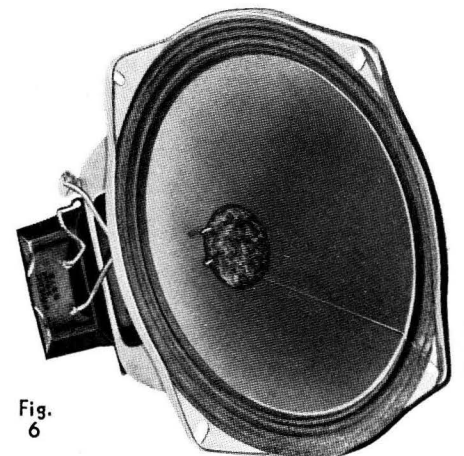


Fig. 6

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