

Great Plains Audio

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DIAPHRAGM/VOICE COIL ASSEMBLY REPLACEMENT FOR ALTEC LANSING® 800 & 900 SERIES H. F. COMPRESSION DRIVERS

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The diaphragm and voice coil assembly in H.F. compression drivers is extremely delicate and must be handled with care. Prior to starting the replacement procedure, select a work area that is clean and free from iron dust or chips. Cover the surface with a few layers of clean paper. The area must be free from drafts to prevent iron dust particles in the air from being magnetically attracted to and lodged in the voice coil gap of the H.F. compression driver. Replace the diaphragm and voice coil assembly in accordance with the following procedures.

1. Remove leads from external binding posts (see Figure 1). Note electrical phasing (polarity) as leads are removed.

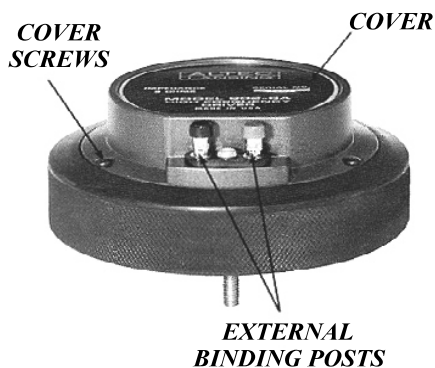


Figure 1. Typical Altec® 900-Series H.F. Compression Driver

2. As appropriate to the installation, remove driver loudspeaker and/or horn from enclosure or mounting, and take removed H.F. compression driver assembly to the prepared work area.

PLEASE NOTE: Where easy access to the driver is available, the replacement procedure may be completed without removing the H.F. compression driver loudspeaker and/or horn.

3. Remove screws securing driver cover (see Figure 1).

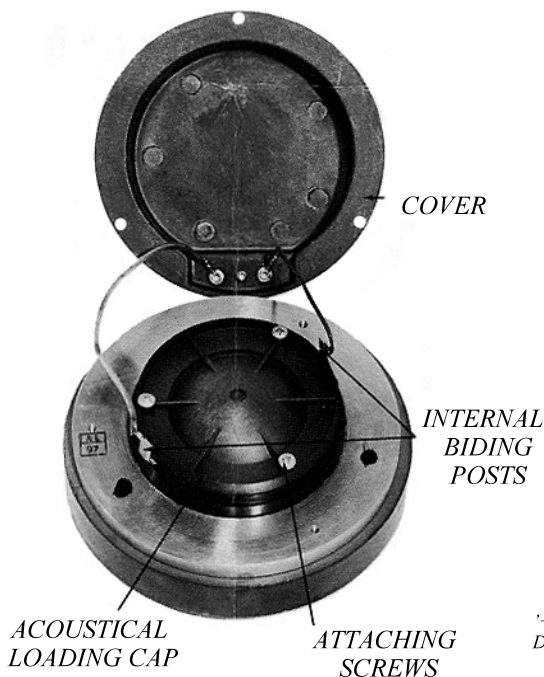


Figure 2. Typical Altec® 900-Series H.F. Driver with Acoustical Loading Cap

4. Lift cover from the driver and remove the two leads from their internal binding posts; set cover aside. Please note that some models were equipped with an acoustical loading cap (Figure 2), while others were provided with an acoustical absorbent felt disc (Figure 3), instead of a loading cap.

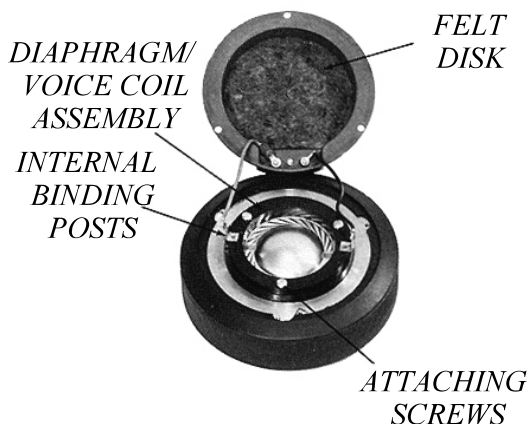


Figure 3. Typical 900-Series Altec® H.F. Driver without Acoustical Loading Cap

5. Remove three screws securing acoustical loading cap (Figure 2), or diaphragm and voice coil assembly

(Figure 3). For models using an acoustical loading cap, set it to one side until ready to re-install.

CAUTION!

The diaphragm is extremely delicate! Use care to prevent damage. Avoid physical contact with diaphragm. Keep screwdriver away, as strong magnetic field may attract screwdriver into diaphragm.

6. Carefully work diaphragm and voice coil assembly free. Remove assembly (see Figure 4).

CAUTION! The diaphragm is extremely delicate! Use care to prevent damage. Avoid physical contact with diaphragm. Keep screwdriver away, as strong magnetic field may attract screwdriver into diaphragm.

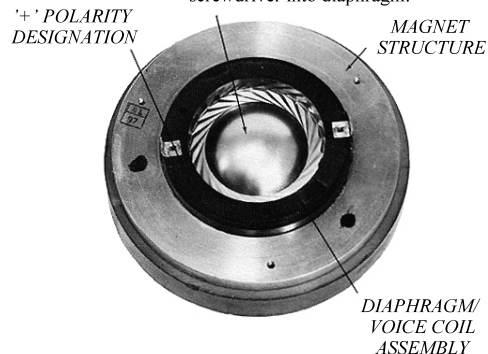


Figure 4. Typical Altec® 900-Series Diaphragm/Voice Coil Assembly

7. Clean foreign material from voice coil gap with a short strip of masking tape one-inch wide. Fold tape back to form a strip with adhesive exposed on both sides. Insert edges of folded tape into voice coil gap to full depth, and wipe clean completely around circular perimeter of phasing plug and top plate (see Figure 5). Repeat cleaning procedure several times with fresh tape until tape is clean when withdrawn.

8. Carefully place new diaphragm and voice coil assembly in proper position to align screw holes. Use care to avoid damaging edge and sides of voice coil while positioning it in voice coil gap. Be sure voice coil/diaphragm assembly is fully seated.

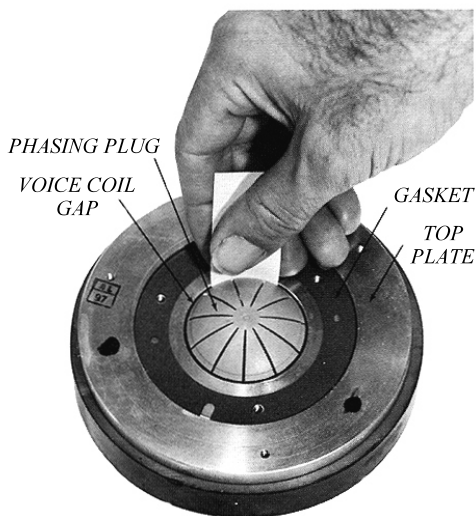


Figure 5. Cleaning The Voice Coil Gap

9. For Models without an acoustical loading cap, install screws removed in Step 5. Tighten screws securely.
10. For models with an acoustical loading cap, re-install using screws removed in Step 5. Tighten screws securely.

CAUTION!

If new screws are required to secure the acoustical loading cap and/or the voice coil/diaphragm assembly, use non-magnetic screws (such as stainless steel or brass) *only*.

11. If you have an Altec 800-series driver, and the old diaphragm you replaced utilized screw terminals to attach the leads, you will need an **800-900 Series Leadwire Kit** to convert your H.F. compression driver to the new-style push-on terminals used on all diaphragms manufactured since 1983. To replace the old spade-lug type leads with the new, push-on leads provided in the kit, follow these steps:
 - A. Remove the leads from the external binding posts.
 - B. For the old-style nickel plated

screw-down terminals (used on all Altec 800-series drivers), open the binding post by unscrewing the top, then insert a small screwdriver into the opening where the speaker wire usually goes. Using a pair of small, needlenose pliers, turn the nut inside that secures the binding post to the rear cover while applying pressure with the screwdriver in the opposite direction. Take care not to damage the small fibre washers that insulate the binding post from the rear cover. Repeat this process for the second binding post.

- C. Install new lead wires on your Altec 800-series driver by connecting the red wire to the **L2** external binding post, and the black wire to the **L1** external binding post. Tighten securely by using the method given above in Section B.
- D. Connect the push-on connector of the red lead to the terminal marked "+" on the diaphragm mounting ring, then connect the push-on connector of the black lead to the terminal marked "-" on the diaphragm mounting ring. You may now proceed to Step 13.

12. If you have an Altec 900-series driver, and the old diaphragm you replaced utilized screw terminals to attach the leads, you will need an **800-900 Series Leadwire Kit** to convert your H.F. compression driver to the new-style push-on terminals used on all diaphragms manufactured since 1983. To replace the old spade-lug type leads with the new, push-on leads provided in the kit, follow these steps:
 - A. Remove the screws that attach the old leads to the posts.
 - B. Replace old leads with new ones, making sure to maintain proper color coding (red wire to the red

external binding post, and the black wire to the black external binding post). **NOTE:** Be sure to align the eyelets of the lead wires onto the binding posts so that they will be parallel to the top plate of driver when installed. If this is not done, they might come in contact with the metal surface of the driver and short out when the cover is reinstalled.

- C. Connect the push-on connector of the red lead to the terminal marked "+" on the diaphragm mounting ring, then connect the push-on connector of the black lead to the terminal marked "-" on the diaphragm mounting ring.
13. Install cover of H.F. driver, securing with screws removed in Step 3.
14. Return driver to service; connect external leads to binding posts. Take care to maintain electrical phasing (polarity) as originally wired.

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