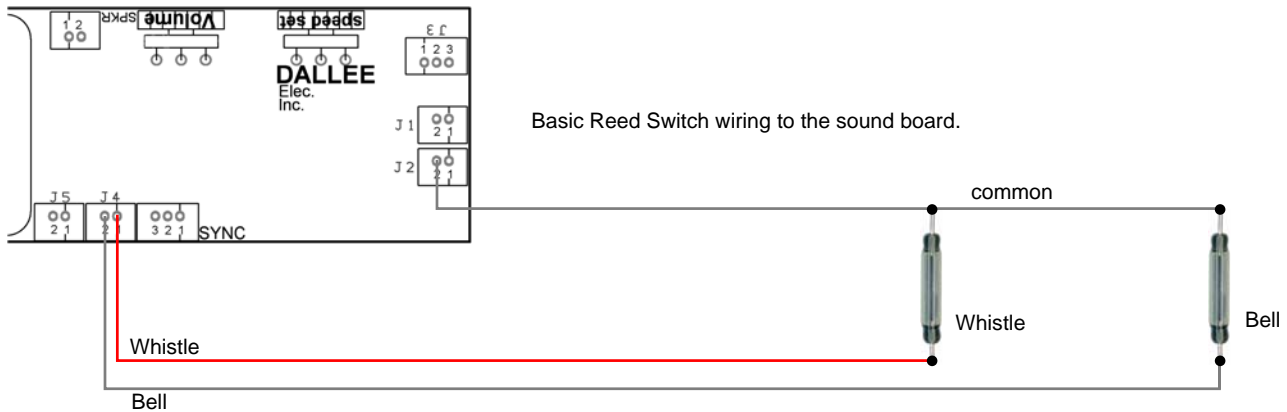
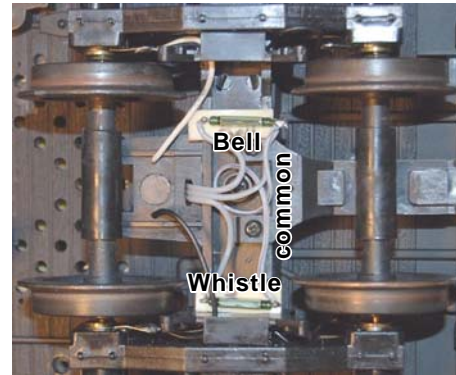
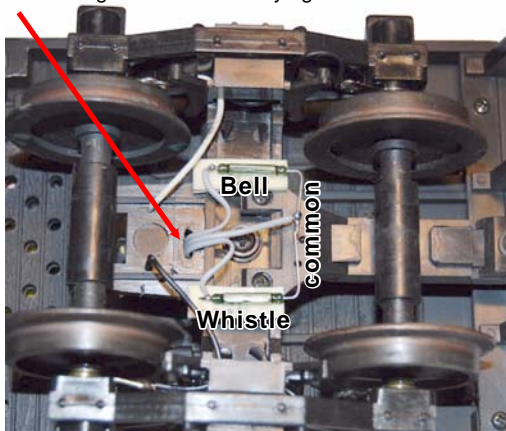


# Installing a Dallee DCv3 auto-Whistle Sound System into an Aristo-Craft Steam locomotive.

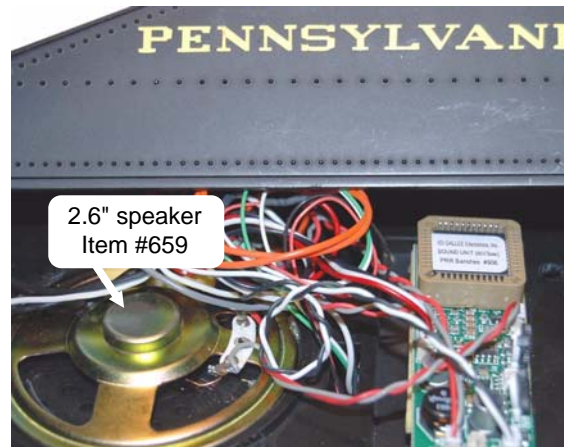
- 1 - Reed Switches - locate and wire the reed switches as shown. Since they both connect to a common wire, only 3 wires are needed between them and the sound board.
- 2 - Since one reed switch controls the Whistle and the other controls the Bell, they need to be mounted on opposite sides of the chassis or truck. These are shown below, attached with double sided tape (item 388), inside the sideframe. To keep things consistent, we used the right side of the engine for Whistle activation and the left for Bell. By wiring all engines the same way, it is easy to know which side activates which function.

Note: You may want to test the activation distance for the reed switches before final assembly. Since not all reed switches are made alike, some will activate at a very low magnetic field strength and others at a higher strength. The higher strength isn't the problem as much as a lower strength. A lower strength reed switch might activate from a magnet located on the opposite side of the rail (from a far distance). This is tested by using an ohm meter to test for closure of the reed switches or by wiring to the sound system and passing a magnet for the opposite activation. This is demonstrated below. In this case the Whistle reed switch was too sensitive and activated with the Bell magnet. To prevent this, the Whistle reed switch was moved further away. Since it is a sensitive reed switch, there is no problem activating with a magnet on the inside of the right rail.

Make a notch or other small holes to secure the wires. This helps to prevent a turning truck from destroying the wire connections.



- 4 - attach the track power wires and appropriate materials for the track power pickup (J1 and J2) as shown in the main instructions. An easy installation of the rechargeable 9v battery (item 647) with a 9v battery snap connector (item 578) is easily accomplished with double sided tape (item 388).
- 5 - a sound on/off switch (item 524) can be easily mounted by drilling a small hole in the shell. Place it in the same direction as other switches if present. This way the "ON" position will be easily known. This tender already had a switch which was utilized for this operation. "ON" is easily identified by pushing the slide switch towards the locomotive.
- 6 - mount the sound board. This board was mounted towards the front of the slope back tender since it has an access cover which makes easy adjustments to the controls on the sound board. Since this 0-4-0 engine is a PRR type, we used an appropriate PRR Banshee / Freight sound system, item #906.



7 - connect the rest of the required items as per the instructions that came with the sound system. If this is a newer type engine installation, you may want to refer to the Aristo-Craft GE diesel application sheet which details the connections on the main PC board.



Looking into the front access panel of the tender at the sound unit.

## Optional synchronized chuff installation.

Although a correct synchronized exhaust chuff is best when read from the locomotives drive wheel or axle, reading a tender axle is much easier with some locomotives.

As can be seen in the picture to the right, it is easy to install a synchronized chuff pickup on a tender axle. Item 583 can be mounted to read any axle or rim. This locomotive already had a rotating ferrite pressed onto the axle which makes for an easy target. Remove the upper magnetizing piece to allow for an easier rolling axle and cleaner stripe. The optical coupler was mounted with double sided tape at an appropriate distance of 1/4". A piece of electrical tape was placed on the axle to make 1/2 of it reflective via the tape (white section) and the other half not reflective (black section) due to the ferrite material. This will produce 1 exhaust chuff sound per revolution of the axle. If more exhaust chuff's are desired, merely make more black / white regions.

Wire the optical pickup as per the sound systems instructions. If additional connectors are desired, please refer to our price schedule or catalog.

If a painted pattern is chosen over this method or the pre-printed patterns included with item 583, care must be given since black paints will still reflect an infra-red beam. It is best to rough up the surface to prevent a reflection instead of painting it black.

Make a notch or other small holes to secure the wires. This helps to prevent a turning truck from destroying the wire connections.

