

Sparton Musical Horn Maintenance

Originally printed *SK*, June 2006

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Basic motor-driven horn care begins by keeping it clean and lubricated. If the horn mechanism has been properly serviced and is in good order, it should give you many years of good use.

Periodically remove the motor cover and gently wipe everything down with a soft clean rag. Take a look at the brushes, and make sure they are riding squarely on the commutator and are not worn down to nubbins. Some folks like to take a clean cloth and apply a very light film of Vaseline or light oil to the commutator.

If the commutator needs to be polished, use a strip of 600-1500 grit wet-or-dry sandpaper. Regular number 00 sandpaper may also be used. Never use emery cloth or emery paper, as the grit tends to get imbedded in the commutator segments, causing excessive brush wear. Clean the air gaps between the commutator segments -- a wood or plastic toothpick works best. Never use a metal tool for this purpose.

Lubricate the horn with light machine oil (3-In-One, gun oil, sewing machine oil, etc.). Never use motor oil. Start by removing the threaded plug and fill the oil chamber above the wicking. This lubes the pump rotor, rotor bearing, and upper armature shaft bearing. Moving to the bottom of the motor, oil the lower armature shaft bearing felts, the two camshaft felts, the cams, and the gears. Some folks like myself prefer to lube the cams and gears with multi-purpose grease, NGLI Grade 2.

If the horn tone falls off, is weak, or becomes irregular, first check the voltage. It may be nothing more than a loose connection. A poor ground is often a common suspect.

A typical problem with these horns is wear of the compressor housing and the sliding vanes. Worn components will prevent sufficient pressure from building up for proper intonation. Keep in mind that new parts are not available. Very few of these horns will have air pressure as high as when they were new, so don't expect the tone to be exceptionally loud.

Make certain the little valves are seating and that all three vanes are making good contact

with the chamber wall and are not sticking in their slots. Both ends of the vanes are the same, so they can be reversed if one end is screwed up. The ends of the vanes and the chamber wall can be lightly dressed with 600 -1500 grit wet-or-dry sandpaper.

Clean & lube all parts before reassembly. The gasket may not be salvageable, so remove all traces of it and apply a thin coat of Loctite Gasket Eliminator 518 flange sealant or Permatex Hylo-mar HPF gasket dressing and flange sealant. Silicone sealants are not recommended.

If pressure is sufficient (20 psi ballpark), but the tone is weak or nonexistent, the two lobes on each cam may be worn (this is rare) and not providing enough lift. If they are okay, then the one or more of the diaphragms may be bad or out of adjustment.

Replacement diaphragms are not readily available, but a collector suggested using x-ray film. He also mentioned that the diaphragm adjustment is touchy. Very touchy.

First unscrew the diaphragm end caps and check their condition. If the diaphragms look wavy, crimped around the edges, or dished, they probably won't work. Loosen the locknuts. Turn the diaphragm housings 2 turns counterclockwise, and reassemble the end caps with serviceable diaphragms.

Push the horn button. The motor will run but no sound should be heard from the trumpets. Remove the screens from the trumpet bells by gently prying them out or unscrewing the trumpets and pushing them out with a rounded-end wood dowel. Stuff a cloth in all but the shortest one on the 4-trumpet models, or the intermediate one in the 3-trumpet Bugles and Chime-Bugles.

Push the button again. With the motor running, SLOWLY screw the diaphragm housing clockwise until maximum volume is heard. You'll have to turn the housing slightly past this point to make sure, so back up a tad until the high point is again reached. Tighten the locknut, remove the cloth from the longest trumpet on the bugle and Chime-Bugle, or the next shortest on the 4-trumpet models. Push and repeat the adjustment.

A slight squealing noise when a trumpet starts to blow means that that diaphragm housing is too tight.

S.K.