

SERVICE BULLETIN

Subject: Authority22 Spray Nozzle Assembly

Date: 2/29/08

Distribution: Authority22 Customers

Bulletin No. SB08-2

Part Numbers

Cleaner Nozzle Body, Long, 14-100410-000

Cleaner Nozzle Body, Short, 14-100411-000

Introduction

It has come to our attention that the cleaner spray nozzle body assembly threads of the bottom ball socket nut are being broken off inside the cleaner rail of the Authority22. The leading cause of this failure is incorrect adjustment of the spray nozzle assembly by the user. Refer to *Figure 1*.

This bulletin will explain the correct adjustment and incorrect adjustment of the spray nozzle body assembly. It will also provide the procedure for the removal of the threads of the bottom ball socket nut if they have been broken off inside the cleaner rail assembly.

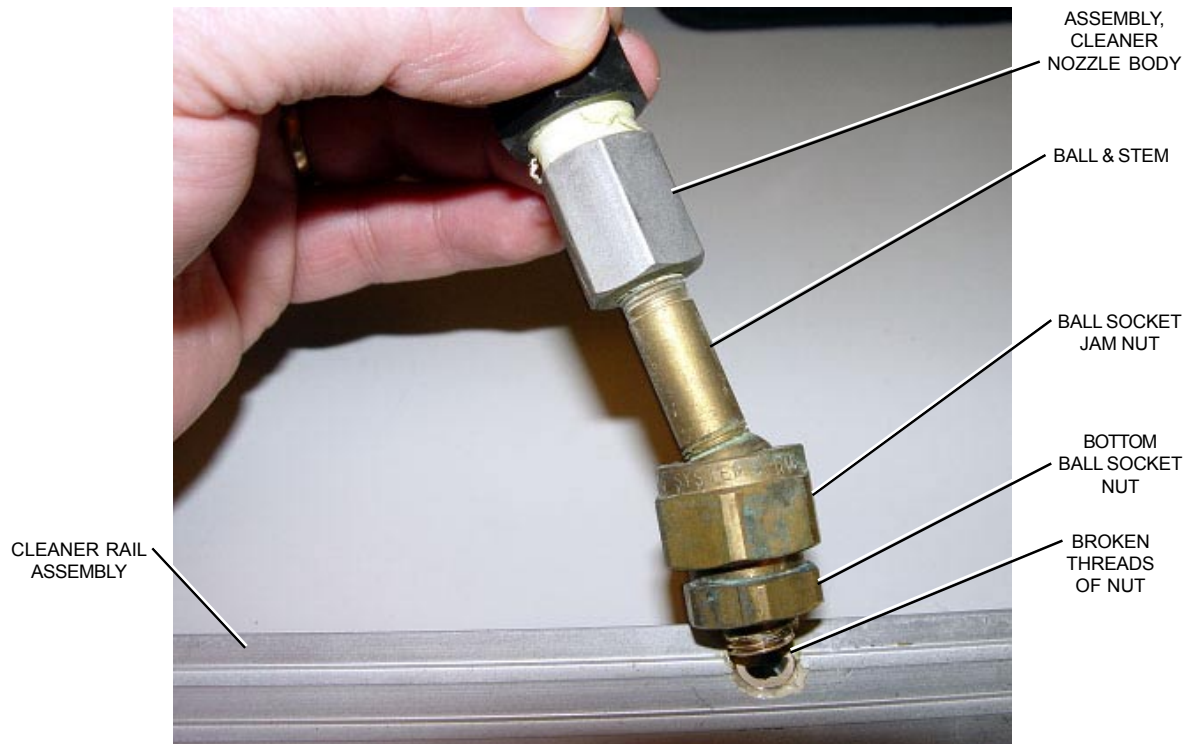


Figure 1

Cleaner Spray Nozzle Adjustment Procedure

Tools Required

- 3/4" or 19mm open end wrench
- 7/8" or 22mm open end wrench
- Large towel or several rags

Incorrect Spray Nozzle Adjustment Procedure – *Do Not Use!*

When performing the adjustment incorrectly, the user will over tighten the ball socket jam nut and hit the stem and ball with too much force with a hammer or blunt object to adjust the spray nozzle spray to the lane surface. This will put stress on the bottom jam nut, breaking off the threads of the nut within the cleaner rail assembly.

Correct Spray Nozzle Adjustment Procedure

Proper adjustment of the spray nozzle assembly will prevent breakage of the threads of the bottom socket ball nut inside the cleaner rail assembly. Adjustment will also ensure that the lane cleaner solution gets sprayed onto the lane surface in the correct area without overspray into the gutters, squeegee and duster cloth.

Place the Authority22 into the operating position and push the lane machine out onto the lane surface at least 12 inches (305mm) out past the foul line. Do not apply power to the Authority22 at this time. Open the covers of the machine and locate the spray nozzle body to be adjusted.

Step 1

To adjust, hold the bottom ball socket nut of the assembly firmly in place with a 3/4" or 19mm open end wrench. Do not let the nut turn. If the nut turns and is threaded too far down into the rail, the threads could be broken off. While holding the bottom nut in place, loosen the jam nut on the ball and stem using a 7/8" or 22mm open end wrench. Slightly tighten the jam nut by hand and move the stem of the assembly to the desired point at which you want the fan of the spray to be delivered to the lane surface. Tighten the jam nut with the 7/8" or 22mm open end wrench. It may take several adjustments to get the correct alignment of the ball and stem and spray nozzle to the lane surface. Follow Step 2 below to check the cleaner spray pattern to the lane surface.

Step 2

Have a large towel or several rags nearby to soak up cleaner as the cleaner pump is run. Apply power to the Authority22. Using the Graphical User Interface, (GUI) select "Maintenance," "Diagnostics," "Cleaning," and "Cleaner Pump." Press "OK" to run the cleaner pump. The pump will run for 20 seconds, you can stop the pump prior to the 20 seconds if "OK" is pressed again. Watch where the cleaning solution is applied to the lane surface; adjust so that there is complete coverage of the lane surface without spraying into the gutter sections of the lane. Wipe up all excess cleaner from the lane surface and readjust if necessary.

Bottom Ball Socket Nut Thread Removal Procedure

Tools Required

- Hammer
- 1/4" Screw Extractor with Handle
- Cordless Drill and Drill Bits, sizes 1/4" to 11/32"
- 3/8-24 Fine Threaded Tap with Handle
- Cutting Oil
- Vacuum

Step 1

Unplug the power cord to the Authority22 and raise the machine up into the transport position. The nozzle assembly can be extracted or drilled out while the rail is still in the lane machine. The following procedure is shown with the cleaner rail removed from the machine. Place the end of the extraction tool into the broken threads of the nut and turn in by hand until tight, then slightly tap the extractor with a hammer to secure it in the broken threads. Using the extraction tool handle, turn the extractor counter-clockwise until the threads of the nut are removed. Refer to *Figures 2 and 3*. **Use Caution! If the threads will not come out, do not use excessive force as you may break the extractor off inside the threads.** If the threads cannot be removed with the extractor, the threads will need to be drilled out. Refer to Step 2.



Figure 2



Figure 3

Step 2



Warning!: Use Safety Glasses.

Using cutting oil and a sharp 1/4" drill bit, drill into the threads. Continue increasing drill bit sizes until the 11/32" drill bit is used. Use a vacuum to remove all thread material from the hole. Do not use any bits larger than 11/32", as doing so will damage the threads in the cleaner rail assembly. Refer to *Figure 4*.



Figure 4

Step 3

After drilling, there may be some of the threads of the nut still left inside the rail. To remove the remaining threads, use a 3/8"-24 fine threaded tap. Insert the tap and slowly turn the tap handle clockwise and counter clockwise working the tap in until all the threads of the broken nut are removed. Refer to *Figure 5*.

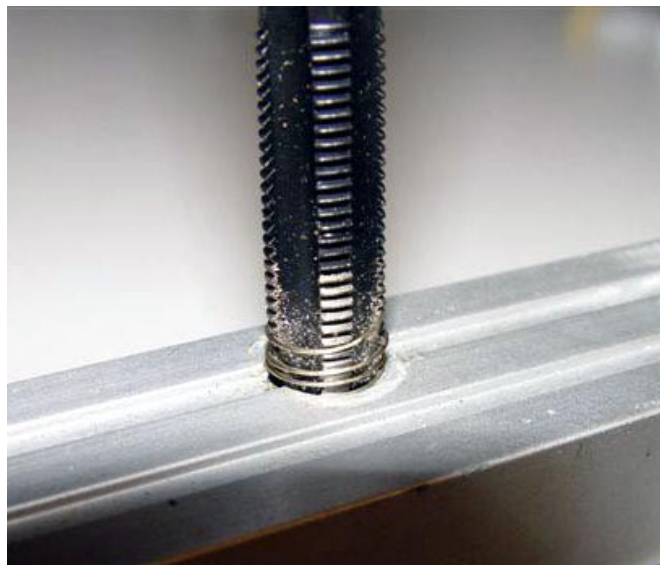


Figure 5

Step 4

Once the threads are removed, make sure the tap can be easily screwed into the threaded hole of the cleaner rail assembly. Repeat vacuuming of the threaded hole in the rail to remove all old thread material. Using Teflon tape, wrap the threads of the bottom ball socket nut of the replacement spray nozzle assembly and screw the threads of the new assembly in by hand. Refer to *Figure 6*. Secure the bottom ball socket nut of the replacement spray nozzle assembly into the rail using a 3/4 or 19mm" wrench. Tighten until there is a 1/4" (6mm) gap between the bottom of the nut and the cleaner rail.



Figure 6

Step 5

After the nozzle is secure, adjust the spray of the nozzle assembly using the previous spray nozzle adjustment procedure. Run the Authority22 lane machine and make sure all spray nozzles are spraying. After you have completed running all the lanes with the machine, remove the cleaner mesh filter screen located under the Graphical User Interface (GUI) and clean with compressed air. Also take all spray nozzle tips out and clean the check valve strainers at the end of each spray nozzle. Make sure there are no shavings from drilling or tapping the cleaner rail, left in the system.

A copy of this Service Letter is available on the Brunswickbowling.com website. If you have questions regarding this or any other Service Letter, please contact the Brunswick Customer Response Center at 1-800-937-2695 or 1-231-725-4966, Fax 1-231-725-4667, or E-mail crc.support@brunbowl.com

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