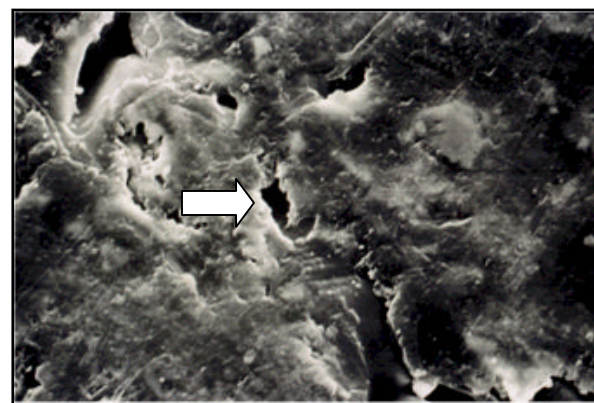


What could the 2007 Nobel Prize in Chemistry have to do with cleaning your B&G sprayer? Actually, a lot! On December 10th Gerhard Ertl will pick up his award for research on chemical reactions that occur on solid surfaces. Some of the reactions are quite complicated (hey, they don't give those prizes for easy stuff), and some as simple as the process of rust. Dr. Ertl figured out the complex molecular mechanisms between a surface and stuff on the surface. In the process, he helped explain why

you should not use bleach to clean your B&G tank.

Stainless steel (= B&G tank) does not rust because chromium has been added to the steel (that's why magnets don't stick to your tank). The chromium forms a thin film of *chromium oxide* on the surface of the stainless steel—it is too thin to see, and the metal remains shiny. A similar reaction occurs on common steel, with the formation of *iron oxide* or rust, which is distinctly visible on the surface. On stainless steel the chromium oxide forms a protective covering, called the passivation layer, on the inside and outside of the tank. When the surface is scratched taking the sprayer in and out of the service truck, the chromium oxide layer quickly reforms to protect the stainless steel below.



Close-up of stainless steel
(electron microscope)

When bleach is used to clean the sprayer tank, things can go badly. The chlorine in bleach provides chloride molecules that replace the oxygen in chromium oxide—remember this is the protective surface layer. Stainless steel typically has small pits (⇨) and shallow crevices on the surface. The chloride can find its way into one of those natural pits or crevices. Once there it forms a powerful acid and begins to corrode the steel. The corrosion pit continues to 'grow', even when the bleach solution is removed and the tank rinsed. The tiny hole that eventually opens to the surface—usually around the bottom of the tank—has behind it a larger area of corrosion. This hole in the tank can't be fixed.

The message: Using bleach, instead of plain soap and water, can result in non-repairable damage to your B&G. It's all about chemical reactions on the surface of the stainless steel—the reactions Gerhard Ertl figured out. Nice work.

Get your sprayer ready for 2008 with these inexpensive maintenance kits!

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GD-124 Sprayer Rebuild Kit



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Suggested

Replace the most common 'wear & tear' parts with the genuine OEM GD-124 Repair Kit from B&G. Use on 'N' Series Prime Line B&G sprayers with the Extenda-Ban valve.

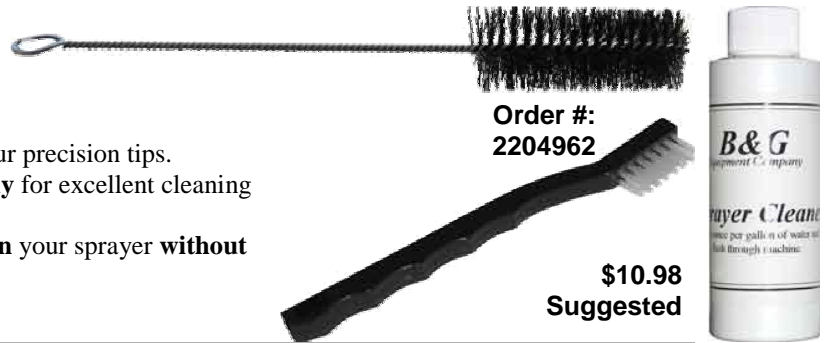
Repair your pump tube with the included cup spreader plate (NP-270), polypropylene cup (NP-277), pump gasket (P-268), pump lock spring (P-276), and check valve (PV-266). Even includes grease for your pump tube!

Repair your extenda-ban valve with 3 valve packings (VP-151), seat stem spring (VS-156), soft seat gasket (SP-159), tip O-ring (4190), hose washer (D-51-P), and nylon gasket for strainer housing (NG-146).

Keep it clean without voiding your warranty!

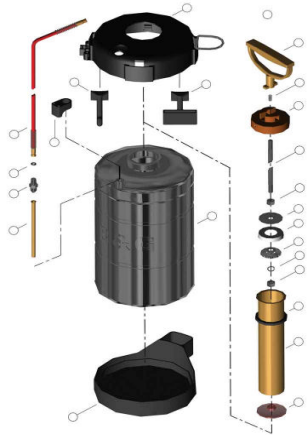
The B&G Sprayer Maintenance Kit contains:

1. Brush for cleaning the tip. The **only method** that won't ruin your precision tips.
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