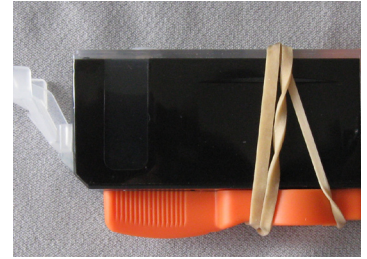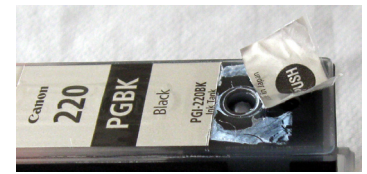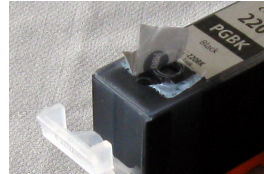# Refilling Canon PGI-220 CLI-221 Cartridges

Step 1. Seal off the bottom outlet hole with original orange covers or aftermarket storage clips. (Available at Precision Colors) In a pinch, flexible tape e.g. electrician PVC vinyl tape or duct tape can be used. Make sure it seals all around the edges of the hole. *If it leaks it can get messy .*
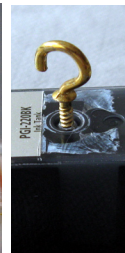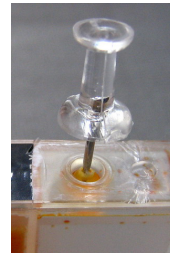

Step 2. Remove part of the label covering the ball as shown. Use a sharp knife to cut the label and then using same tool raise the corners of the label to peel it back. It is easiest if you have a pair of tweezers but is not absolutely necessary. *Alternatively just remove a small part of the label above the ball.* **Easiest.**

Step 3. Remove the ball plug. Using the push pin, make a starter hole in the small ball then heat the pin tip with a cigarette lighter or candle and enlarge the hole a little more. Use the included self tapping eyelet or hook, screw it into the starter hole until it grabs hold of the ball well and the ball turns. At this point you can pull the ball out cleanly without damaging the ball holding hub.
Alternatively you may drill a 5/32" hole directly into the tank if you find the previous ball removing process too fiddly.

Step 4. Remove any remaining ink on the tank side and place it into the bottle of ink of similar color. This is only done the first time the cartridge is being prepared. Skip this step when refilling the second time and thereafter.

Step 5. Use a **5/32"** drill bit and enlarge the ball hole very slightly. This will allow the plugs to fit perfectly so that removal is easy yet tight enough to allow a perfect airtight seal.
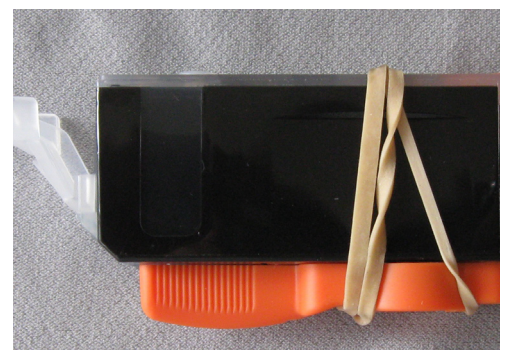

Step 6. Assemble the syringe and needle. Draw the correct ink into the syringe approx 7-8cc and fill the tank side up until 1/8" from the top.

Step 7. Insert the plug until it fits flush with the top. It must fit flush as illustrated.

Step 8. Get some tissue paper handy and placing it around the bottom outlet hole, remove the tape or outlet cover. Some ink may leak out so be ready for it. If ink continues to drip out after two or three drops, there is an air leak on the tank side. Try reinserting the plug after resealing the bottom outlet . Check that the ink outlet sponge was not pushed up into the cartridge. If so, use a small needle or tweezers and pull it back down. **Do not install into the printer if the ink drips**. At this point it is a good idea to take a paper towel and wick some ink out of the outlet sponge. The ink tank/cartridge is properly refilled when the ink does not drip.

Step 9. Reinstall in printer and run one or more cleaning cycles and nozzle checks to verify that ink is flowing properly and all nozzles are clear.