

JB Tech Talk No. 7: RCMP Prison Toilets Won't Flush

This was a unique problem, and I had only a small part in diagnosing it and no part in finding the real reason for it. It's a good example of how a small mistake can cause a big problem.

We had supplied stainless steel combination toilet/lavatory prison fixtures for a small RCMP detachment. I loved selling them; they were expensive. I used to think about how we could market them as the go-to option for other uses but could never come up with the right angle. Hard to overcome the 'prison fixture' stigma.

Anyway, the contractor called to say the flush valves on the toilets weren't working and asked me to come to the site and check it out.

He was right; they weren't working properly, but *how* they weren't working was symptomatic of low water pressure. I told him that and he said they had good pressure on a gauge in the cold supply line in the mechanical room so off we went to confirm.

The pressure on the gauge was indeed adequate but I wanted to see what would happen when one of the toilets was flushed. He sent one of his guys upstairs to do that and when the toilet was flushed the pressure dropped like a rock to near zero and then very slowly started to come back up. It was obvious that there was a restriction or some other issue with the water supply line. Of course, it was now buried. And, in Saskatchewan, we bury them deep!

Having proved that the problem was not with the flush valves, I went back to the office. I didn't know what the issue was until later.

They ultimately brought in a sewer cleaning company with a camera to check the supply line. It was clear, until they got to the tie-in at the main. They had connected to an existing 6" underground plastic water line with a hot tap fitting. Hot tap drills have two bits, a small pilot bit followed by a larger cutter bit that removes a disk called a coupon from the pipe. When their guy drilled the connection, he only drilled the pilot hole, not the full diameter cutter hole. The opening available for water flow was only about 1/4" in diameter. To fix it they had to re-excavate, take the connection apart and re-drill it.

Sometimes 'D'oh' just doesn't seem to cover it.

