



#### Convoluted Wrench - Eric Kulaas

Posted by EricKulaas on  
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Over the years Toro has increased the use of their electric hydraulic valves. My first experience with these was on the early 5100-Ds in the early '90's. They are fairly reliable, at least when you learn their in's and out's. Initially the problems we had were mostly related to moisture. The shaft under the solenoid would corrode. Then you could have a lost contact or reduced "pull".

Over the years we learned that the best preventative maintenance we could come up with was to coat them with Club Car battery Terminal spray. Soak everything. This waterproofs better than one would think. It's also easy to clean in case you do need to pull one out.

Early on, to pull some of these out was a chore. Sometimes you'd have to pull out the two beside it to get a wrench on it. Deep sockets wouldn't work as the valve stem was too tall. What we came up with was our own wrench. To make it, cut off the 12 point wrench end. Weld that, perpendicular to a 3/4 roller shaft. I made ours about 10 inches tall. Then weld another section of roller shaft at 90 degrees to that. In a reverse fashion. This allows you to slip it in to any valve and remove it without taking anything else apart.