Using Diesel Tools for Glow Plugs in Diesel Mechanics

In the time I’ve spent as a mechanic, (primarily a diesel mechanic) I learned a few unconventional tricks and a lot of lessons. I usually find myself dealing with problems such as broken or mushroomed glow plugs. This issue comes when carbon continues for long periods of time to cake on the glow plug since diesels are famous for smoking and being not-so environmentally friendly. The glow plugs are not actually mushroomed but they do fit (when new) into a nice tight hole so when they start to accumulate carbon buildup, they get thicker at the end, we call that being mushroomed. The next thing that usually involuntarily takes place during the removal process is breakage. You don’t really have a lot of options when you get to this. When breakage does occur, you have two options, neither is very favorable.

Option one, since you now have a piece of glow plug broken off inside the cylinder, and that can’t stay there, you can remove the head. Heads are famous for being heavy, placed at angles as to not be user friendly, they usually have other parts of the engine that need to be removed just to get to them and they are very, very picky about how they are reinstalled. You have specific torque specs and you have to tighten the bolts in a certain order. We will discuss this topic in a later issue.

Option two, you can drain the oil from the pan (which is usually very easy), disconnect the oil pan from the block, disconnect the piston that is housing the broken glow plug from the crankshaft since there are only two bolts and they are very easy to get to also, then just pull the piston straight down out of the cylinder. Once you get the piston out, the glow plug piece will fall right out.
Now that you have the culprit it’s time to put this thing back together. I know a lot of people who think the worst job in the world of engines is to reinstall a piston. This however, is an easy task if you have the right tools. The particular tool that I love is a piston ring compressor. It’s cheap, easy to use and there not hard to find. In addition to the ring compressor you really don’t need any other tools besides a good socket set with extensions. It’s good to have standard and metric since some manufacturers chose to use both. Also, a rubber or wooden mallet is almost a must have.

So, you have the piston out and the glow plug piece is removed. Now you have to reinstall it. Just loosen the tightening bolt on the side of the ring compressor and slide it over the piston, making sure that your oil rings are offset properly to reduce blow by. Once that is on, tighten the ring compressor until it’s good and snug and the rings are compressed fully. Be sure to keep about a half inch of piston above the ring compressor to assist in guiding the piston home. Install the piston into the bottom of the cylinder until the ring compressor is seated against. the block. With the mallet, lightly tap on the bottom of the piston assembly or piston wrist. The piston will slide right into the cylinder as long as you are sure to keep the ring compressor against the block. Once you feel the piston slide into the cylinder and the rings are seated inside the cylinder the compressor will slide right down. Now just slide the piston up and/or down to realign it with the crankshaft and replace the lower portion of the piston wrist around the crankshaft. Make sure you tighten the bolts to mfg specs. Replace your oil pan and refill with oil. Now you have successfully fixed the problem.

See our Diesel Tools to find the right tools for this job