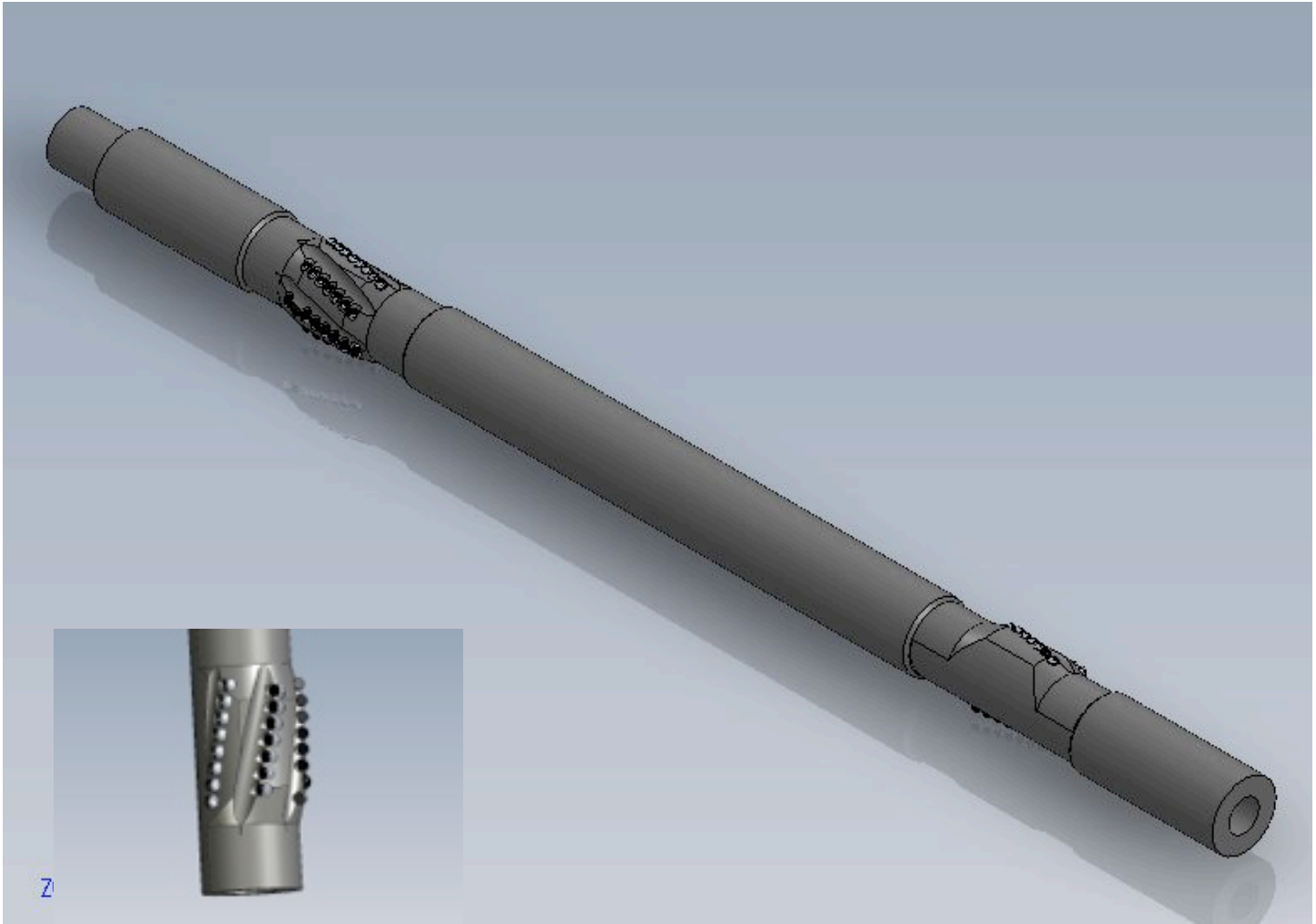


TriCenter
Dual Eccentric Reamer
Nov, 2010



In November, 2010 Bill Short, Richard Beggs, and Brad Beggs invented the TriCenter reamer. The TCR has no concentric reaming component. It has two eccentric reamer components that are offset 180 degrees apart. They rely on each other to act as a guide for the other to force side reaming opposing each other. It has been very successful in being run while drilling just above the directional drilling BHA.

In February, 2013 Short Bit & Tool Co. sold its patents pending 13/441,230 and 13/517,870 to 3C Reamers which is now owned by Hard Rock Solutions. SBT no longer makes the TriCenter Reamer. What exactly SBT cannot offer is two eccentric reamers that oppose each other.