Short Bit & Tool Co.

Custom Diamond & Carbide Manufacturing Since 1984



A Smith Rotary Drill Bit has its top sub sawn off just above the weld line.

Care is taken to leave the original internal portion of the top sub so we can maintain theoriginal length of mild steel blank in your bit.

The gage chamfer is turned or ground (depending on hardness) and kept at the maximum diameter in your original bit.



A 4130 HT Mandrel is made to match the original OD of your bit shank to keep the originaldesign strength at your bit matrix to mild steel blank interface. We do not alter your original bit structure.

.In the case of your 9 $\frac{3}{4}$ ", your existing shank diameter was 7 $\frac{1}{4}$ "

The box thread is cut using a conventional roller rest.

In the case of your 9 ¾" bit the 7 ¼" mandrel diameter was too large for our roller rest so we sent it to our Midland stock point to be threaded

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The sleeve stabilizer is cut from billet steel, milled, drilled, assembled, brazed and ground true, then it is slip fit onto the mandrel...aligned with your bit gage, pre-heated to 550-600F, and 7018 MIG welded in the plugs and circumference.



There is a net reduction in annular area of about 30% from the bit to the sleeve stabilizer.