Sometimes, you just need to keep it simple.

If your tooling adds an unnecessary level of complication to your machining process, it's likely there's a better solution out there somewhere. Of course, sometimes you don't realize there's an extra level of complexity until you try something else. Our customer, who was machining link arms for steering columns, initially wanted to improve their tool life and increase their penetration rates.

The customer decided to test the **4TEX Indexable Carbide Drill** using the "P" geometry with AM480 coating designed specifically for wear-resistance in steel material applications. The 4TEX checked both of the customer's boxes by increasing the penetration rate and doubling the tool life.

However, there were two additional benefits the customer hadn't been focused on: (1) the previous tooling left an exit burr on the hole, but the 4TEX drilled a clean hole every time, and (2) the 4TEX utilized only one style of inserts for both pockets. This simple feature proved beneficial because the previous tooling had two separate inserts (one specifically for each pocket). On occasion, the operators had accidentally put the wrong inserts in the wrong pockets, leading to damaged tooling.

All around, the 4TEX improved the customer's process. While certain metrics were similar in comparison, the elimination of exit burrs and the insert design were more than enough to seal the deal for the 4TEX. *Be on the lookout for tooling benefits you didn't realize you needed.*

Product:	4TEX® Drill
Objectives:	(1) Improve tool life (2) Improve penetration rate
Industry:	Agricultural
Part:	Steering column link arm
Material:	Ductile cast iron
Hole Ø:	1.375" (34.925 mm)
Hole Depth:	3.250" (14.986 mm)

Measure	Competitor IC Drill	4TEX® Drill
RPM	1041	950
Speed Rate	375 SFM *(114.3 M/min)*	342 SFM *(104.2416 M/min)*
Feed Rate	0.005 IPR *(0.127 mm/rev)*	0.006 IPR *(0.1524 mm/rev)*
Penetration Rate	5.20 IPM *(132.08 mm/min)*	5.70 IPM *(144.78 mm/min)*
Exit Burr	Yes	No
Cycle Time	37 sec	34 sec
Tool Life	300 parts per insert	600 parts per insert

▶ 4TEX Drill holder
3xD length
Item No. D3111375I-150F

▶ 4TEX Drill inserts
P geometry (steel)
Item No. 4T-11T306-P
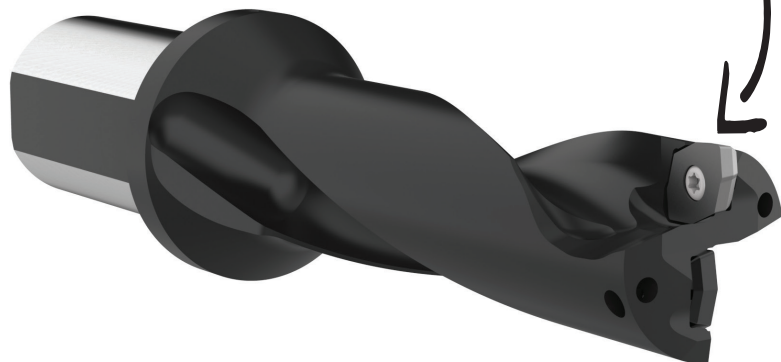
100% tool life increase
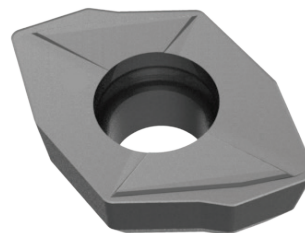
The 4-sided indexable inserts with wear-resistant coating provided:

✓ **Increased tool life**

✓ **Increased penetration rates**

✓ **Eliminated exit burrs**

✓ **Worry-free machining**