



Gear Blanks: Revolution Drill®

The customer machines gear blanks made from 4140 (40 Rc) using an OKUMA OSP 5000 Horizontal Mill with flood coolant.

The customer needed to improve cycle time and asked Allied for a more effective solution.

The **Revolution Drill®** significantly improved the customer's process. The cycle time decreased while the tool life increased, providing a lower cost per hole for the customer.



		Measure	Competitor High Feed Mill	Revolution Drill®
Product:	Revolution Drill®	RPM	1000	395
Objective:	Decrease cycle time	Feed Rate	0.060 IPR (1.524 mm/rev)	0.006 IPR (0.152 mm/rev)
Industry:	Agriculture	Penetration Rate	60 IPM (1524 mm/min)	2.3 IPM (58.42 mm/min)
Part:	Gear blanks	Cycle Time	3 min 30 sec	50 sec
Material:	4140, 40 Rc	Tool Life	16 holes	48 holes
Hole Ø:	2.47" (62.738 mm)	The Revolution Drill offered 76.99% cost per hole savings over the competitor tooling.		
Hole Depth:	1.60" (40.64 mm)			



► Revolution Drill®
Holder: R42X22-CV50
Inserts: OP-05T308-H

20% tool life increase

The Revolution Drill® provided:

- ✓ Decreased cost per hole
- ✓ Decreased cycle time
- ✓ Increased tool life

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