Fuel Transfer Component: Revolution Drill®

The customer manufactures a component for the fuel transfer industry made from 1018. They use a boring mill with water soluble flood coolant. Each part requires 8 drilled holes.

As their workload increased, the customer needed to speed up operations. They asked Allied for a solution to improve their process and increase throughput.

The **Revolution Drill®** reduced the number of required tools from 3 to 1. The solution also decreased cycle time and reduced tooling costs.

Product: Revolution Drill®
Objectives: (1) Decrease cycle time
(2) Decrease cost
Industry: Oil & gas/petrochemical
Part: Fuel transfer component
Material: 1018
Hole Ø: 2.8″
Hole Depth: 6.0″

Measure	Competitor Tooling	Revolution Drill®
RPM	**(1) Drill:** Ø = 0.750″ depth = 6″ **(2) IC drill:** Ø = 2.5″ – 400 RPM 0.009 IPR – 3.6 IPM **(3) Boring bar** Ø = 2.8″	800
Feed Rate		0.0035 IPR
Penetration Rate		2.8 IPM
Cycle Time	10 min	2 min 9 sec
Tool Life	75 holes	795 holes
Cost per hole	$22.43	$4.14

- Revolution Drill® Holder: ***R46X22-150L***
  Inserts: ***OP-05T308-H***

82% cost savings

The Revolution Drill® provided:

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