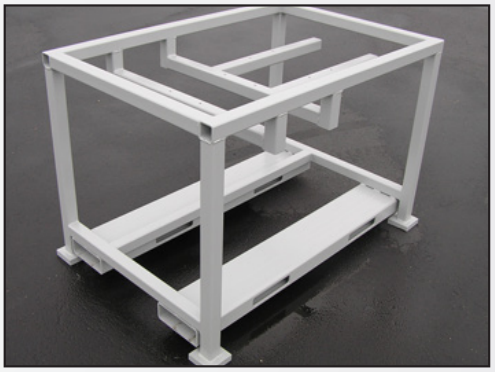
Weldments: Opening Drill® / Revolution Drill®



The customer manufactures weldments from A36 steel plates. Initially, the process involved flame cutting the roughed hole. The parts were then machined on a SuperMAX Machining Center utilizing flood coolant. Previously, the customer flame burned a rough hole and then experimented with the following selection of tooling.

The results and the time it took to complete the operation were unacceptable. The best results they could achieve provided a 35 minute cycle time.

The combination of the **Revolution Drill®** and **Opening Drill®** decreased the cycle time by 94%, providing the ideal solution for this application.

Product: Opening Drill®
Objective: Decrease cycle time
Industry: Heavy equipment
Part: Weldments
Material: A36 steel plates
Hole Ø: 4.02"
Hole Depth: 4" thru-hole

Measure	Competitor	Revolution Drill®	Opening Drill®
Speed	Previously tried: - Twist drills - Spade drills - Indexable end mills - Finish bore tools	700 SFM	800 SFM
Feed Rate		0.004 IPR	0.005 IPR
Penetration Rate		4.3 IPM	3.8 IPM
Cycle Time	35 min	2 min	
Cost Per Hole	$58.45	$3.34	

- Revolution Drill® Holder: ***R42x22-150L***
- Opening Drill® Holder: ***OP3-1S-1.5***

94% cycle time decrease

The Opening Drill® & Revolution Drill® provided:

- ✓ Decreased cycle time
- ✓ Decreased cost per hole