

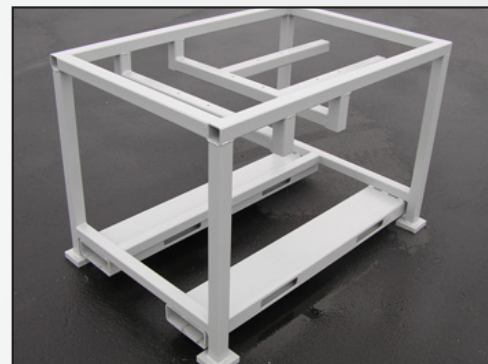


Weldments: Opening Drill® / Revolution Drill®

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" (102.108 mm)	Hole Depth: 4" (101.6 mm) thru-hole	Measure	Competitor	Revolution Drill®	Opening Drill®
							Speed	Previously tried: - Twist drills - Spade drills - Indexable end mills - Finish bore tools	700 SFM (213.360 M/min)	800 SFM (243.84 M/min)
Feed Rate	0.004 IPR (0.102 mm/rev)	0.005 IPR (0.127 mm/rev)								
Penetration Rate	4.3 IPM (109.22 mm/min)	3.8 IPM (96.520 mm/min)								
							Cycle Time	35 min	2 min	
The Opening Drill offered 94.29% cost per hole savings over the competitor tooling.										

▶ 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

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