



## Machine limitations shouldn't limit your productivity.

Just because your machine has limitations doesn't mean your productivity should suffer too. Our customer was machining oil pump covers on a CAT40 machine with low horsepower. To create the 2 different groove features on the part, our customer used an end mill to interpolate around both grooves. The entire process took 50 minutes to complete.

The cycle time was unacceptable for our customer, but they didn't believe their machine could handle a full-size grooving tool to complete the process in less time. To achieve grooves of these sizes would require more torque and power than their machine could handle. Also, the first groove was abnormally deep (7mm) based on industry standards, which further complicated the application's requirements.

Using a **Wohlhaupter Face Grooving Tool** with customized components and special inserts, our customer successfully completed the 124mm (4.881") groove in 24 seconds. Using a second face grooving tool, our customer finished the 222mm (8.74") groove in 20 seconds. This improvement obliterated expectations, reducing the cycle time from 50 minutes to just under 1 minute (**a 99% decrease**). Reducing the cycle time allowed our customer to increase production from 0.6 parts/hour to 1.15 parts/hour.

Our customer couldn't believe how significant the improvements were. A process that lasted nearly an hour before could now be completed in less than a minute, all on the same low horsepower machine. **Don't let your machine slow you down; contact your local tooling specialist to find the right tool for your job.**



Product:		Measure	End Mill	Ø 124mm Feature Groove Tool	Ø 222mm Feature Groove Tool
Objectives:	Reduce cycle time	RPM	Our customer didn't think their CAT40 machine could handle a full-size boring tool.	313	175
Industry:	Heavy equipment	Speed Rate		400 SFM (121.92 M/min)	400 SFM (121.92 M/min)
Part:	Oil pump cover	Feed Rate	They used the end mill to interpolate around both grooves.	0.002 IPR (0.051 mm/rev)	0.002 IPR (0.051 mm/rev)
Material:	Grey cast iron	Penetration Rate		0.63 IPM (16.002 mm/min)	0.35 IPM (8.89 mm/min)
Groove Ø:	124mm (4.881") / 222mm (8.74")	Cycle Time	50 min	26 sec	20 sec
			Production	1.15 parts/hr	

- ▶ Grooving tool for 124mm feature:
  - (1) Serrated tool body: 148007
  - (2) Grooving components: Specials
  - (3) Grooving inserts: Specials
  - (4) Master shank: 353005
- ▶ Grooving tool for 222mm feature:
  - (1) Serrated slide: 350021
  - (2) Support block: 226014
  - (3) Insert holder: 226010
  - (4) Grooving inserts: 297978WHC136
  - (5) Master shank: 353005



### The Wohlhaupter grooving solution:

- Decreased cycle time ✓
- Increased productivity ✓
- Excelled on a low horsepower machine ✓

99% cycle time decrease