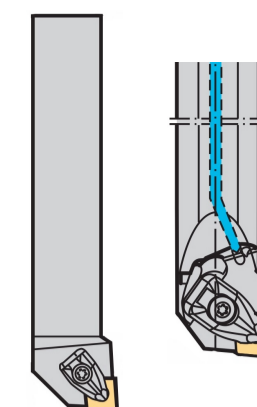




Tool Performance Report

Turning



Customer

| | |
|---------------|--|
| Company: | |
| Contact: | |
| QTS Employee: | |
| Date: | |

Machine

| | |
|----------------------|--|
| Machine Description: | Okuma |
| Condition: | <input type="checkbox"/> Good <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Poor |

Material

| | | | | |
|---------------|---|--|--|---|
| Type: | <input checked="" type="checkbox"/> Steel | <input type="checkbox"/> Stainless Steel | <input type="checkbox"/> Hi Temp Alloy | <input type="checkbox"/> Aluminum Non-Ferrous |
| Material No.: | A36 | | | |
| Condition: | <input checked="" type="checkbox"/> Clean | <input type="checkbox"/> Heavy Scale | <input type="checkbox"/> Flame Cut | <input type="checkbox"/> Casting |
| Hardness: | 20 Rockwell C | | | |

Workpiece

| | |
|--------------|--|
| Description: | Pressure plate |
| Drawing #: | |
| Rigidity: | <input checked="" type="checkbox"/> Good <input type="checkbox"/> Medium <input type="checkbox"/> Poor |
| Operation: | <input checked="" type="checkbox"/> Rough <input type="checkbox"/> Finish |
| Dimensions: | Length: _____ Diameter: _____ |
| Comments: | |

Tool Data

| | Current | Test 1 | Test 2 | Test 3 | Test 4 | Test 5 |
|---------------|------------|------------|--------|--------|--------|--------|
| Manufacturer: | Tungaloy | Walter | | | | |
| Holder P/N: | MWLN16-4 | MWLN16-4 | | | | |
| Insert P/N: | WNMG432-TM | WNMG432 MR | | | | |
| Insert Grade: | T9125 | KCP25B | | | | |
| Index Time: | 5m | 5m | 0m | 0m | 0m | 0m |
| Lead Angle: | 95 | 95 | | | | |

Machining Data

| | Current | Test 1 | Test 2 | Test 3 | Test 4 | Test 5 |
|-----------------|---------|--------|--------|--------|--------|--------|
| Speed (SFM): | 500 | 800 | | | | |
| Work Dia: | 6 | 6 | | | | |
| RPM: | 318 | 509 | | | | |
| IPR: | 0.01 | 0.008 | | | | |
| IPM: | 3.18 | 4.07 | | | | |
| Cutting Depth: | 0.02 | 0.04 | | | | |
| Cutting Length: | 2 | 2 | | | | |
| MRR cu in/min: | 1.2 | 3.1 | 0.0 | 0.0 | 0.0 | 0.0 |

Machining Results

| | Current | Test 1 | Test 2 | Test 3 | Test 4 | Test 5 |
|--------------------------------|--------------------|--------------------|--------|--------|--------|--------|
| Part count: | 7 | 25 | | | | |
| Cycle Time: | 9m 5s | 4m 17s | 0m 0s | 0m 0s | 0m 0s | 0m 0s |
| Surface Finish: | 63 | 63 | | | | |
| Spindle Load: | | | | | | |
| Failure Mode: | Flank wear | Flank wear | | | | |
| Criteria for end of tool life: | Normal insert wear | Normal insert wear | | | | |

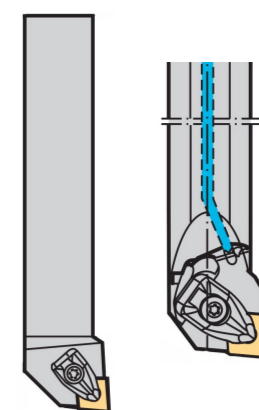
Comments

Successful test! We were able to decrease cycle time by 53% & increased tool life by 350%. If the Kennametal inserts that were tested had been used on the complete job we would have have over 70hrs of machine time.



Tool Performance Report

Turning



Tool Costing

| | Current | Test 1 | Test 2 | Test 3 | Test 4 | Test 5 |
|---------------------------|------------|------------|--------|--------|--------|--------|
| Manufacturer: | Tungaloy | Walter | | | | |
| Holder P/N: | MWLNR 16-4 | MWLNR 16-4 | | | | |
| Holder Price: | \$0.00 | \$60.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Parts Per Holder: | 100000 | 100000 | | | | |
| Insert P/N: | WNMG432-TM | WNMG432 MR | | | | |
| Insert Grade: | T9125 | KCP25B | | | | |
| Insert Price Ea: | \$0.00 | \$9.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Cutting Edges Per Insert: | 6 | 6 | | | | |
| Parts Per Index: | 7 | 25 | 0 | 0 | 0 | 0 |
| Annual Part Production: | 800 | 800 | | | | |
| Tooling Cost Per Part: | \$0.00 | \$0.06 | | | | |
| Tooling Cost Annually: | \$0.00 | \$48.48 | | | | |

Machining Cost

| | Current | Test 1 | Test 2 | Test 3 | Test 4 | Test 5 |
|--------------------------|------------|-----------|----------|----------|----------|----------|
| Machine Description: | Okuma | Okuma | Okuma | Okuma | Okuma | Okuma |
| Hourly Rate: | \$100.00 | \$100.00 | \$100.00 | \$100.00 | \$100.00 | \$100.00 |
| Cycle Time: | 9m 5s | 4m 17s | 0m 0s | 0m 0s | 0m 0s | 0m 0s |
| Index Time: | 5m | 5m | 0m | 0m | 0m | 0m |
| Machining Cost Per Part: | \$16.33 | \$7.47 | | | | |
| Machining Cost Annually: | \$13063.49 | \$5977.78 | | | | |

Total Machine Time

| | Current | Test 1 | Test 2 | Test 3 | Test 4 | Test 5 |
|----------------------|--------------|-----------------|--------|--------|--------|--------|
| Total Time Per Part: | 9m 48s | 4m 29s | | | | |
| Total Annual Time: | 130h 38m | 59h 47m | | | | |
| Total Time Savings: | 0h 0m | -70h 51m | | | | |

Total Cost

| | Current | Test 1 | Test 2 | Test 3 | Test 4 | Test 5 |
|----------------------|---------------|------------------|--------|--------|--------|--------|
| Total Cost Per Part: | \$16.33 | \$7.53 | | | | |
| Total Annual Cost: | \$13063.49 | \$6026.26 | | | | |
| Total Savings: | \$0.00 | \$7037.23 | | | | |