




TUNGALOY TEST TOOL EVALUATION REPORT

| | |
|----------|--|
| DATE: | |
| REPORT#: | |

| | | | |
|----------|--|-------------------|----------------------|
| COMPANY: | | SALESMAN: | |
| CONTACT: | | PART DESCRIPTION: | Cat Single Web Idler |
| TEL: | | WORK MATERIAL: | Steel Casting |
| FAX: | | MAT'L HARDNESS: | 45-50 Rc |

| | | |
|---------------------|------------------|---|
| TYPE OF OPERATION | Helical ramp | MACHINING OPERATION (SKETCH)  |
| MACHINE TOOL & TYPE | Toyoda FA630 HMC | |
| RIGIDITY | Good | |
| COOLANT TYPE | None | |
| COOLANT METHOD | None | |

| TOOLING REQUIRED | COMPANY / COMPETITOR | COMP | TUNGALOY | TUNGALOY | TUNGALOY |
|--------------------|-----------------------------------|---------------|------------------|---------------|---------------|
| | | CURRENT | FIRST TEST | SECOND TEST | THIRD TEST |
| | TOOL DESCRIPTION | COMP | TXP08300RU | TXP08300RU | TXP08300RU |
| | HOLDER/BODY TYPE | Face Mill 16t | Face Mill | Face Mill | Face Mill |
| | INSERT | SPC63K8 | WPMT080615ZPR-ML | WPMT080615ZSR | WPMT080615ZSR |
| | INSERT GRADE | | AH120 | AH120 | AH120 |
| CUTTING PARAMETERS | WORKPIECE/CUTTER DIAMETER | 6 | 3.00" | 3.00" | 3.00" |
| | FEED RATE (IPR = f or IPM = F) | 21F | 60 ipm | 85 ipm | 119 ipm |
| | CUTTING SPEED (RPM=R or SFM=V) | 540V | 700 sfm | 500 sfm | 400 sfm |
| | H.P. REQUIRED (% or ACTUAL) | ~30 | 15% | 25% | 30% |
| | DEPTH OF CUT (INCHES) | ~.2 | 0.04" | 0.04" | 0.04" |
| TOOL PERFORMANCE | CYCLE TIME FOR TOOL (min) | 5.000 | 6 | 5.5 | 5 |
| | PIECES PER EDGE | 5 | 2 | 5 | 6 |
| | TOOL LIFE (min per edge) | 25.000 | 12.000 | 22.500 | 30.000 |
| | EDGES USED PER INSERT | 4 | 3 | 3 | 3 |
| | PIECES PER INSERT | 20 | 6 | 15 | 18 |
| | SURFACE FINISH (RMS) | Roughing | Roughing | Roughing | Roughing |
| | REASON FOR INDEXING | Heavy Wear | Fracture | Chipping | Wear |
| | EST ANNUAL INSERT USAGE (pcs) | 8640 | 9000 | 3600 | 3000 |
| COST EVALUATION | INSERT COST | \$6.60 | \$6.98 | \$6.98 | \$6.98 |
| | NUMBER OF INSERTS IN TOOL (multi) | 16 | 5 | 5 | 5 |
| | INSERT COST PER PIECE | \$5.28 | \$5.82 | \$2.33 | \$1.94 |
| | INSERT INDEX TIME (min) | 1.00 | 1.00 | 1.00 | 1.00 |
| | HOURLY MACHINE DEPT. COST | \$60.00 | \$60.00 | \$60.00 | \$60.00 |
| | TOTAL ANNUAL PIECES | 10,800 | 10,800 | 10,800 | 10,800 |
| | MACH TIME + TOOL COST FOR TOOL | \$10.280 | \$11.817 | \$7.827 | \$6.939 |
| | WON or LOST | | | | WON |

COMMENTS:

In this application we are using the TXP face mill to rough two faces of an idler wheel for a Cat bulldozer. Hardness of 45-50 Rc. The tool is being advanced 0.040" per rev. 400 sfm @ 119 ipm produced 6 parts per edge. Customer will realize a \$33K annual savings on this single operation.



TUNGALOY AMERICA, INC

COST ANALYSIS AND SAVINGS REPORT

Company: 0
Contact: 0

DATE: 00-Jan-00
TTA Rep: 0

TUNGALOY

HIGH OUTPUT TECHNOLOGY

Insert: WMPT080615ZSR
Grade: AH120

| | Competitor COMP | TUNGALOY HIGH OUTPUT TECHNOLOGY |
|-------------------------------|--------------------|------------------------------------|
| Cost of Insert | \$ 6.60 | \$ 6.98 |
| Number of Corners | 4 | 3 |
| Cost Per Corner | \$ 1.65 | \$ 2.33 |
| Number of Inserts In Tool | 16 | 5 |
| Cost Per Loaded Tool | \$ 26.40 | \$ 11.63 |
| Number of Parts Per Corner | 5 | 6 |
| Insert Cost Per Part | \$ 5.280 | \$ 1.939 |
| Number of Parts Run Per Year | 10,800 | 10,800 |
| Cost of Inserts Used Per Year | \$ 57,024.00 | \$ 20,940.00 |

Down-Time Cost

Note: If Insert Change is Internal to Cycle Place 0 in Insert(s) Changing Time

| | Competitor | TUNGALOY HIGH OUTPUT TECHNOLOGY |
|--------------------------------------|-------------|------------------------------------|
| Machine Operating Cost per Hour | \$ 60.00 | \$ 60.00 |
| Minutes in 1 Hour | 60 | 60 |
| Operating Cost per Minute | \$ 1.00 | \$ 1.00 |
| Insert(s) Changing Time (in minutes) | 1.00 | 1.00 |
| Cost per Insert Change | \$ 1.00 | \$ 1.00 |
| Number of Insert Changes per Year | 2,160 | 1,800 |
| Cost of Yearly Downtime | \$ 2,160.00 | \$ 1,800.00 |

Cycle Time Savings

| | Competitor | TUNGALOY HIGH OUTPUT TECHNOLOGY |
|----------------------------------|---------------|------------------------------------|
| Machine Operating Cost per Hour | \$ 60.00 | \$ 60.00 |
| Minutes in 1 hour | 60 | 60 |
| Operating Cost per Minute | \$ 1.00 | \$ 1.00 |
| Cycle Time for Tool (in Minutes) | 5.0000 | 5.0000 |
| Operating Cost per Part | \$ 5.00 | \$ 5.00 |
| Number of Parts Ran per Year | 10,800 | 10,800 |
| Cost of Cycle Time per Year | \$ 54,000.00 | \$ 54,000.00 |
| Estimated Annual Cost | \$ 113,184.00 | \$ 76,740.00 |

TOTAL SAVINGS PER YEAR

| | |
|--------------------|--------------|
| Cost of Inserts | \$ 36,084.00 |
| Cost of Down Time | \$ 360.00 |
| Cost of Cycle Time | \$ - |

Total Savings \$36,444.00

WINNER



TUNGALOY AMERICA, INC

COST ANALYSIS AND SAVINGS REPORT

Company: 0
Contact: 0

DATE: 00-Jan-00
TTA Rep: 0

TUNGALOY

HIGH OUTPUT TECHNOLOGY

