

Cylindrical Grinding Maximizer

Part: Axle Shafts - Various sizes - Largest grind section - 4.6"Ø smallest Ø 1.8" with 3 grinds per shaft - largest width at 1.5" wide with a face grind.

Part Tolerances: Bearing diameter roundness ± 0.0003"

Material: Hardened Steel

Hardness: 58 - 62 Rc

Stock Removal: 0.044" on diameter with 0.014" on face

Wheel Specification: 17" x 3.215" x 5" angle head Type 1EE1SP - Vitrified CBN - Maximizer

Process (Before) Conventional Al₂O₃ Wheel

Wheel Speed: 8,500 S.F.P.M.

Work Speed: 35

Pieces per dress: 1

In-Feed per dress: 0.001+ 2 to 3 passes

In-Feed rate: 0.020" per minute (Rough)

Coolant: Semi-Synthetic

Total Cycle Time: 7+ minutes

Process (After): Vitrified CBN

Wheel Speed: 8,500 S.F.P.M.

Work Speed: 70

Pieces per dress: 80

In-Feed per dress: 0.00005 with 4 passes

In-Feed rate: 0.085" per minute (Rough)

Coolant: Semi-Synthetic

Total Cycle Time: 1 minute 55 seconds

Savings / Advantages: Nearly 4 times productivity and eliminated scrap. Customer has now purchased a higher horsepower grinder with only a 1.5" section of CBN (Maximizer) thus reducing wheel cost by 3 times. Early values indicate a Cpk of > 12 and a sigma level of >36.