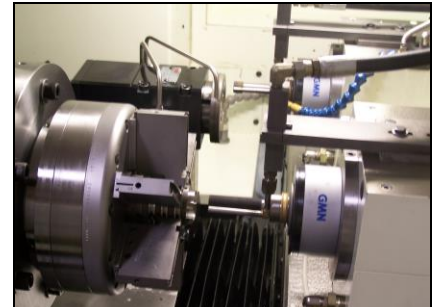




## Phoenix Dual Spindle CBN ID Grinder Case Study



*Customer:* Major component supplier    *Application:* Truck steering - rotary valves

*Configuration:* Dual wheel, vitrified CBN  
 Custom work holding  
 Central coolant connections  
 FANUC 18i TB CNC control

*Process:* Rough plunge / finish traverse grind cycle (ID)  
 Water-soluble coolant  
 CBN wheel ~ rough at 40,000 RPM, finish at 30,000 RPM  
 Work speed at 150 SFPM  
 Dress every ten (10) parts  
 76-second total cycle (floor to floor)

|                    |                           |             |          |
|--------------------|---------------------------|-------------|----------|
| <i>Attributes:</i> | Diameter tolerance        | +/- .00015" | 1.67 CPk |
|                    | Surface finish            | 10 Ra       |          |
|                    | Taper tolerance           | .0001"      | 1.67 CPk |
|                    | Roundness tolerance       | .0001"      | 1.00 CPk |
|                    | Total deviation tolerance | .00015"     |          |

*Featuring:* **Dittel** acoustic sensor, **Universal** electric dresser, **GMN** high frequency grinding spindles, **Spindel** variable speed drives, **Turmoil** spindle chiller