

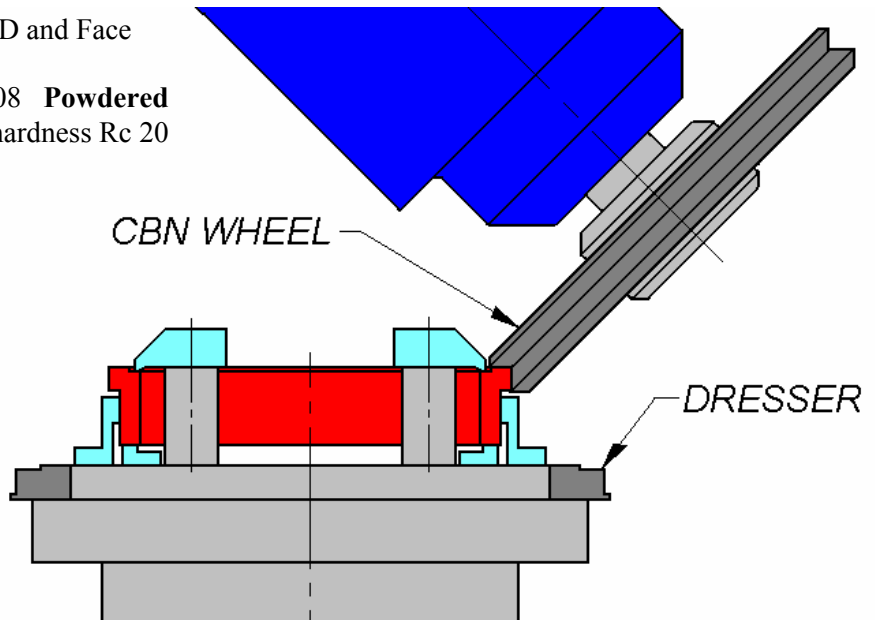
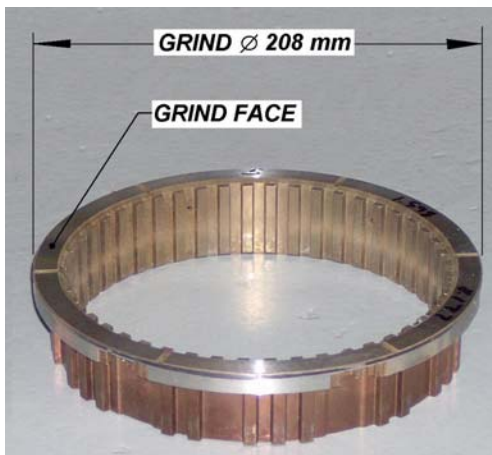
## Grind Outside Diameter and Face of PM Transmission Component

**MACHINE:** Accura™ 1210G

**WORKPIECE:** One-Way Clutch Inner Rocker Plate

**OPERATION:** Simultaneously Grind OD and Face

**MATERIAL:** ASTM B782 FLC-4608 **Powdered Metal** at 6.8 g/cm<sup>3</sup> min. Apparent hardness Rc 20 to 40



**OBJECTIVE:** To grind the 208 mm outside diameter and adjacent face of the workpiece in a **high-production** setting with minimal operator intervention while maintaining true position tolerance and cycle time.

**OPERATION DESCRIPTION:** Hold the workpiece in a passive collet centering, face clamping chuck. Center on the external spline with a spring collet. Locate from the end face. Clamp on the end face of the internal spline. Vector plunge grind at a 45° angle with a vitrified-bond CBN grinding wheel. Dress the grinding wheel with a formed diamond roll mounted on the chuck. Automatically load and unload the workpiece with a **Fanuc LR Mate 200i robot**.

Die springs provide the clamping force while an air cylinder built into the chuck releases the clamps. The wheel spindle is motorized and liquid cooled. Workpieces enter and exit on continuously running conveyors.

**NOTES:** The thin wall thickness and datum roundness variation make chucking this piece a challenge. The passive collet centers the datum OD with minimal distortion. The clamp fingers are located almost directly over the locating pads to keep the part from twisting when clamped.

### TEST RESULTS:

CYCLE TIME PER PIECE: 45 seconds including load and unload

OD SIZE TOLERANCE: 0.1 mm, 1.67 Cpk

TRUE POSITION TO DATUM OD: 0.05 mm, 1.67 Cpk