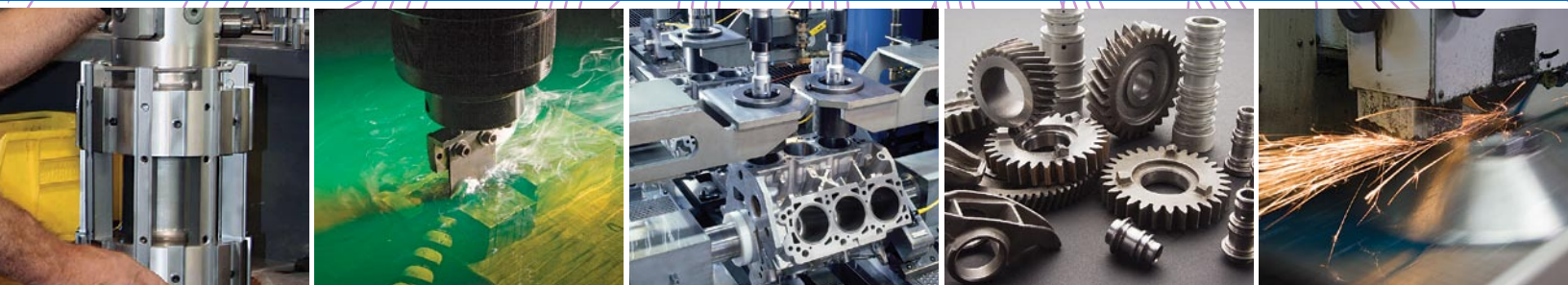
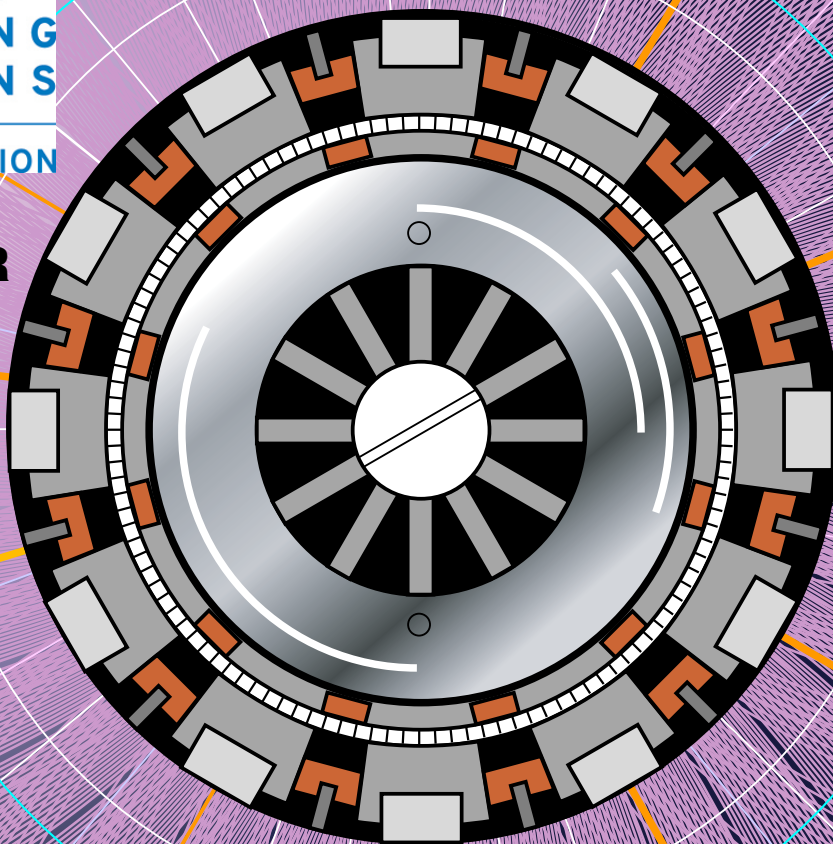




**PRECISION
SURFACING
SOLUTIONS**

ABRASIVE & TOOLING DIVISION

**YOUR PROVEN
HONING PARTNER**



**COMING THROUGH WITH PRECISION . . .
TIME AFTER TIME**

317.841.2400 ■ www.pss-atd.com

COMING THROUGH . . .

At PSS-Abrasives & Tool Division, we've been coming through for customers for years. We dedicate ourselves to the highest quality honing and bore finishing solutions. We make it our goal to create tooling, abrasives and associated products that allow manufacturers to achieve the finest bore quality at an efficient cost per part.



OUR PRODUCTS

- Conventional Honing Stones (Silicon Carbide and Aluminum Oxide)
- Superabrasive Honing Stones (CBN and Diamond)
- Superabrasive Honing Stones and Tooling for use in Sunnen, EC, CV, CK, SV Machines
- Production Honing Stones and Tooling designed for use on any Honing Machine
- Microhone®, Microsize®, Micro-Mold® Bonded Tooling
- Electro-Plated Expandable Superabrasive Mandrels and Tooling
- Electro-Plated Products, Grinding Wheels, Wear and Gripping Surfaces
- Air and Plug Gages
- Electronic Bore Size Control Systems
- Microhone® CNC Tooling and Abrasive Systems



HONING STONES

Engineered and manufactured to optimize the performance of a variety of finishing processes, PSS-ATD abrasive stones are produced in our facility using a proprietary process and specialty bonds. We adhere to strict quality control procedures to give you consistent results time after time.

■ **Conventional Microabrasives** – Our Vitrified and Resin bonds using aluminum oxide and silicon carbide are superior for cutting steel, iron, monel, stainless, cast iron, non-ferrous materials and plastic.

■ **Superabrasives** – Our stones of Cubic Boron Nitride (CBN) accelerate stock removal and maintain a long abrasive life in ferrous material. Our Diamond stones, in turn, are excellent with cast iron, ceramic, chrome and carbide.

■ **Honing Stones for use in Sunnen and Other Machines** – Designed to fit standard Sunnen and other honing machines.

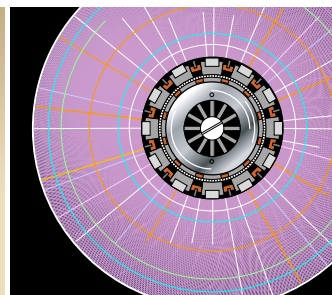
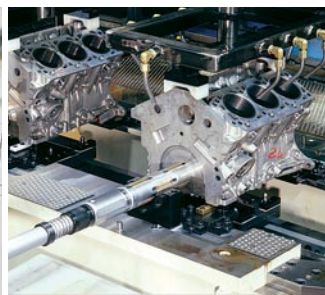
■ **Production Honing Stones** – Specially created to specification for high volume applications.

■ **MicroMold® Abrasives** – Encapsulated in plastic to extend the life of the honing tool.

OUR COMPATIBILITY

Our products are designed to fit and function within any honing machine, including:

- | | | |
|------------|---------------------|------------|
| ■ Accu-Cut | ■ Gehring | ■ Nagel |
| ■ Barnes | ■ General Hone | ■ Sunnen |
| ■ Delapena | ■ Jones and Shipman | ■ Superior |
| ■ Engis | ■ Kadia | ■ Toyo |
| ■ Fuji | ■ Micromatic | ■ Others |



OUR SERVICES

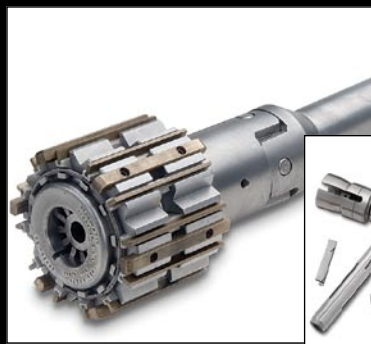
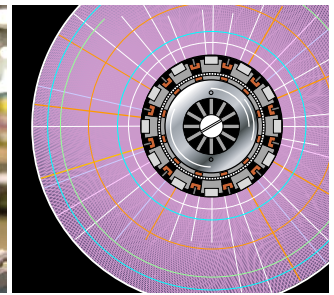
Our relationship extends through your process. PSS-Abrasives & Tool Division has created a one-stop-shop in order to accommodate best practices for our customers.

- Stock and Custom Honing Stones and Tooling
- Applications Technology Center (ATC)
- Test Drive Trial Program
- Process Application Analysis

- Machine Repair and Service Department
- Circle-Grinding and Reconditioning of any and all styles of Hone Tooling
- Air and Plug Gauge Repair and Balancing

WITH PRECISION . . .

Connecting rods, pinion gears, engine blocks and more. We have years of experience creating parts that demand precision. We can offer you our collective knowledge and expertise, the result of thousands of applications.



PROMATIC® HONE

The PSS-ATD line of ProMatic® Production Hones bring OEM

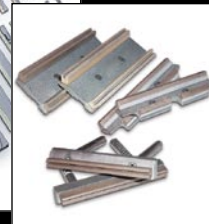


capabilities and quality to remanufacturing and specialty job shops that hone using Sunnen and Rottler style machines.



SUPERABRASIVE HONING STONES

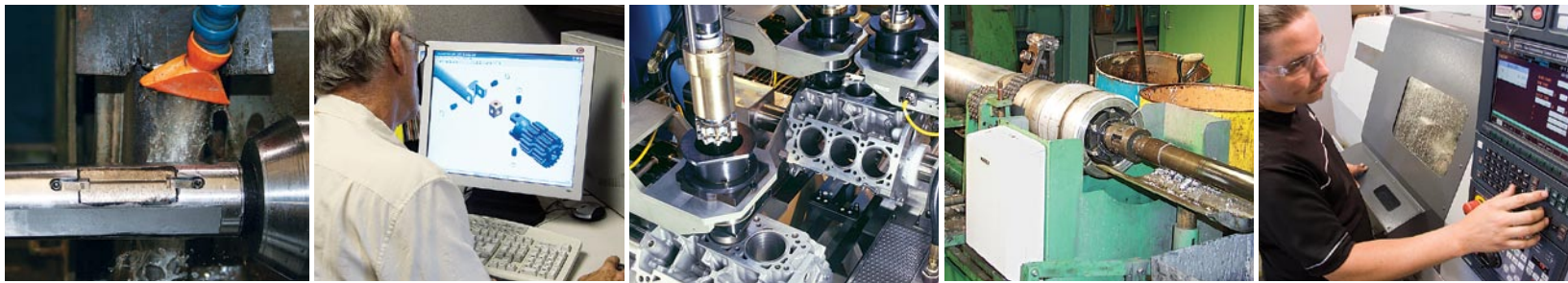
For use in Sunnen machines.



MANDRELS AND TOOLING

Mandrels and tooling are designed and engineered on state-of-the-art CAD and CAE systems for a variety of applications for all honing machines. Our repair and reconditioning services ensure optimum performance and precision.

- Microhone®, Microsize®, Micro-Mold® Bonded Tooling
- Electro-Plated Expandable Mandrels and Tooling
- CBN and Diamond Electro-Plated Products, Grinding Wheels, Wear and Gripping Surfaces
- Gaging and Size Control Systems



ELECTRO-PLATED TOOLING

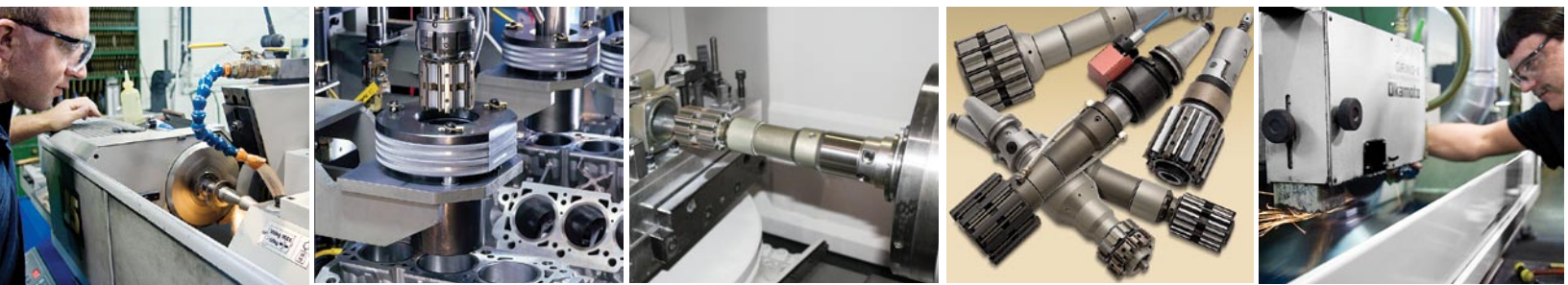
■ Microsize® Bore Finishing Tools – High accuracy tooling for Engis, Accu-Cut, Sunnen and CNC machining centers.

- Grinding Wheels – Long life, consistency, better cutting action and part quality for grinding applications. Stripping and replating services available.
- Gripping Surfaces.
- Wear Surfaces – Various techniques to extend the life of the wear surface.



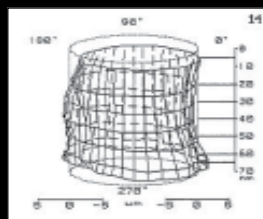
TIME AFTER TIME.

Flawless processes. Flawless parts. That's what keeps our customers coming back . . . time after time. Today, our honing stones and tooling are at work in precision metalworking processes all over the world — in specialized machine shops and in large manufacturing facilities in the aircraft, automotive, transportation, packaging and petroleum industries.

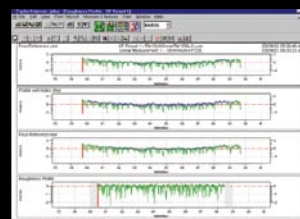


ADVANCED TECHNOLOGIES CENTER

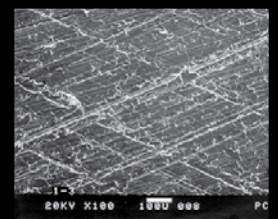
- Process Development
- Abrasive and Coolant Testing
- Developmental and Statistical Studies



PAT Incometer
Readings



Surface Profile
Analysis



SEM Capability
Testing

MICROPHONE® CNC TOOLING AND ABRASIVE SYSTEM

The Microphone® CNC Tooling and Abrasive System from PSS-Abrasives & Tool Division has provided superior results on compressor housings, engine blocks, piston gears and other parts.

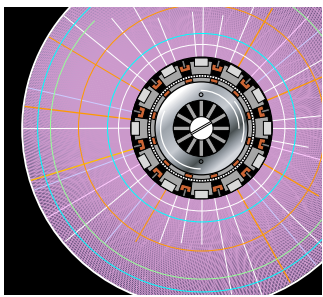
The CNC machining system uses agile or cellular manufacturing, confirming the abilities of machining centers in higher volume production. The system allows for the smooth flow of processing workpieces from one operation to another, eliminating the wait time or need for handling between operations typical of transfer lines.

The CNC system, a rapidly evolving machining technology, is now surpassing conventional honing as the preferred process for finishing the inside diameter of a part.

OUR PROMISE

- Get the honing or bore size ...
- Connecting Rods
- Engine Blocks
- Liners
- Tubes and Cylinders
- Valves
- Bushings
- Injectors
- ABS Sensors
- Compressors
- Tandem or Interrupted Bores


We can help, bringing quality results to your applications!



OUR LEGACY

PSS-Abrasives & Tool Division was founded in 1985, offering a core product line of honing stones and tooling. In 2005, the company acquired the tooling and abrasive line of products from Micromatic, adding to the PSS-Abrasives & Tool Division legacy nearly 80 years of honing and bore finishing innovation.





Let PSS-Abrasives & Tool Division come through for you, sharing the knowledge, experience and precision that keeps our customers coming back . . . time after time



 **PRECISION
SURFACING
SOLUTIONS**

ABRASIVE & TOOLING DIVISION

14560 Bergen Blvd., Suite 800
Noblesville, IN 46060

317-841-2400
www.pss-atd.com

 **LAPMASTER[®]
WOLTERS**

BARNES[®]
BORE HONING & FINISHING SYSTEMS