



# The Metal Powder PRESS®

**MPP Mission Statement**  
To create value by delighting our customers and enhancing the capabilities of the entire company.

Spring 2008

Published by Metal Powder Products Company The Leader in PM Technology and Manufacturing

## FREE PM DESIGN SEMINARS

MPP offers free PM Design Seminars, conducted at your facility.

To arrange an in-house seminar at your facility, call Melinda Hightower at 800.783.2420, or call one of the MPP Sales Managers listed below.

### Divisions

#### MPP Anaheim

Anaheim, CA 800.767.9706  
Scott Clase, Plant Manager

#### MPP Canada

Blenheim, Ontario 519.676.8161  
Phil Goodwin, Plant Manager

#### MPP Ford Road

St. Marys, PA 888.359.9992  
Paul Vavala, Plant Manager

#### MPP Ridgway

Ridgway, PA 888.809.6671  
John Mosco, Director of U.S. Operations

#### MPP Washington Street

St. Marys, PA 888.741.2352  
John Mosco, Director of U.S. Operations

### Sales Offices

#### East/Mid-Atlantic

George Shurtz, Sales Manager, 814.834.2886  
Steve Patrick, Sales Manager, 814.834.7261

#### West

Gary Fulton, Regional Sales Manager,  
714.970.5500

#### Midwest

Tony Zimmerman, Regional Sales Manager,  
740.342.4512

#### South

Gary Fulton, Regional Sales Manager,  
828.441.1138

#### Detroit

Vince Licari, Regional Sales Manager, 248.363.4065

#### Indianapolis

William A. Heath, VP- Sales & Marketing,  
317.580.2420

#### Canada

Rick Armstrong, Sales Manager, 519.676.8161

#### Mexico

Juan Manso, Regional Sales Manager,  
011.52.442.2463348

#### Europe

Christian Schotte, Regional Sales Manager,  
011.32.9.2263055

## MPP Becoming a Leader in Soft Magnetics for Powder Metallurgy

Metal Powder Products is a leader in several areas of powder metallurgy, including PM aluminum, high temperature sintering, and high density gear manufacturing, just to name a few. The processing of soft magnetic PM materials is yet another of these areas. MPP's Vice President of Technology, Dr. Chaman Lall, is an internationally recognized expert in the field, having authored several papers on the subject, including the book *Soft Magnetism: Fundamentals for Powder Metallurgy and Metal Injection Molding*.



*This soft magnetic shell is used in a trailer axle brake assembly.*

### Soft Magnetics at MPP

For most soft magnetic applications, MPP uses various Fe compounds and various stainless steel grades such as 410L

and 434L, which are good candidates for soft magnetic applications where corrosion resistance is needed. Examples of these are anti-lock brake systems (ABS) such as "sensor" or "tone" wheels. These are often located at the vehicle wheels and are exposed to water, dirt and salt from the road.



*This soft magnetic electric motor core is used in an automotive seat adjustment assembly.*

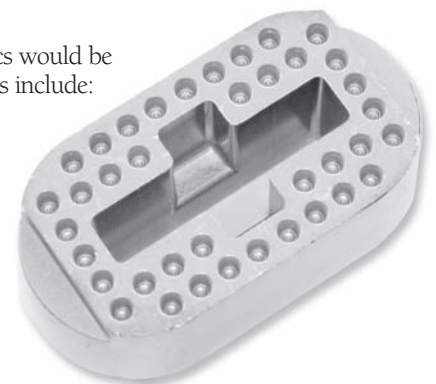
In order to enhance the soft magnetic properties of these PM materials, MPP keeps contamination to a minimum in both the powder preparation and molding stages, as well as during sintering. Also, by using higher temperatures during sintering and pure hydrogen for oxide reduction, we can improve soft magnetic performance. The absence of nitrogen eliminates the deleterious effects of the element, while the higher diffusion rates increase density, dissolve precipitates, and promote recrystallization and grain growth.

### Applications for Soft Magnetics

As mentioned above, a typical application for soft magnetics would be the sensors in anti-lock braking systems. Other applications include:

- Computer equipment
- Current transformers
- Welding transformers
- Instrumentation
- Fuel injection systems
- Medical equipment
- Motor speed controls
- Lighting and plasma displays

If you would like to learn more about the science of soft magnetics in PM, please go to the Technology section of our web site, select Technical Bulletins, and then click on Soft Magnetism in Powder Metallurgy.



*This complex 5-level part is used in a soft magnetic shell assembly.*



### SOFT MAGNETIC PARTS

MPP uses its experience with PM soft magnetics in the production of these components.



Soft magnetic shell used in trailer axle brake assembly



Soft magnetic automotive solenoid plungers



This complex 5-level part is used in a soft magnetic shell assembly

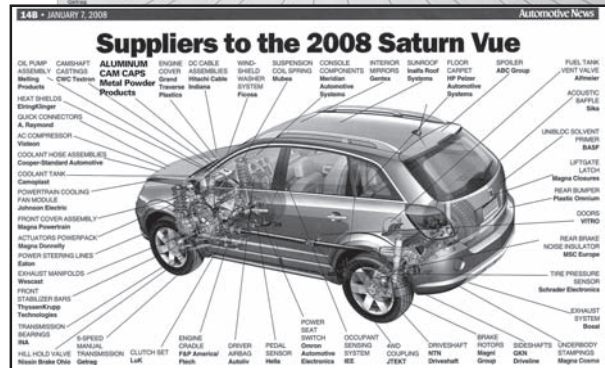
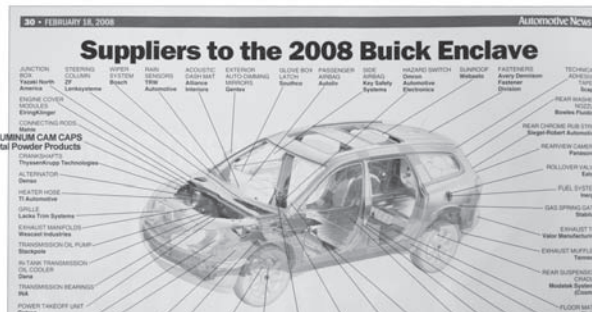


Soft magnetic automotive sensor component

## MPP People & Products In The News

### MPP Aluminum Cam Caps Featured in Automotive Publications

If you're a reader of automotive publications such as *Automotive News*, you might have seen one of these cutaway drawings (shown at right) earlier this year. Both showed MPP as one of the key suppliers of components to the 2008 Buick Enclave and Saturn Vue, respectively. In both cases, MPP was noted for supplying the aluminum camshaft caps used in the engine. The 2008 Cadillac CTS (not pictured), which also uses MPP's aluminum cam caps, was the subject of yet another cutaway. Since 1993, MPP has produced more than 50 million aluminum cam caps, helping make us the world's largest producer of structural PM aluminum parts.



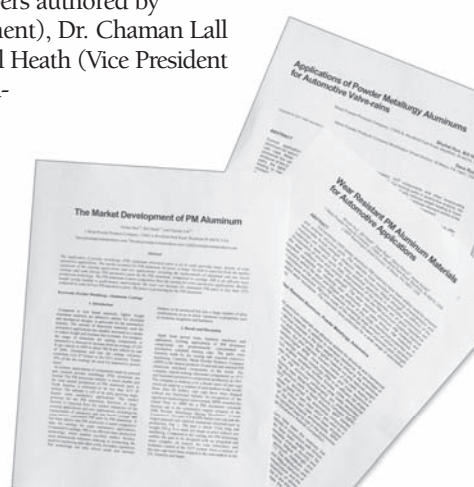
### MPP Personnel Present Technical Papers on PM Aluminum at International Conferences

Over the past 18 months, MPP technical and marketing personnel have been busy making the rounds of the PM industry's key technical conferences. Papers authored by Dr. Shuhai Huo (Director of Aluminum Research & Development), Dr. Chaman Lall (Vice President – Technology & Applications Development), Bill Heath (Vice President – Sales & Marketing), Steve Patrick (Sales Manager – East/Mid-Atlantic), and Jesse Azzato (Engineering Manager – MPP Washington Street Division) were presented at the following conferences:

Powder Metallurgy World Congress. Busan, Korea. September, 2006. *The Market Development of PM Aluminum*

Euro PM International Congress. Toulouse, France. October, 2007. *Wear-Resistant PM Aluminum Materials for Automotive Applications*

2008 SAE World Congress. Detroit, Michigan. April, 2008. *Applications of Powder Metallurgy Aluminums for Automotive Valvetrains*



### The Next Level

## No "Gloom & Doom" for MPP in 2008

It seems like every article you read in the business or general press, and every news story you see on TV, is full of "gloom and doom" with regard to the economy and the outlook for 2008. Well, here at MPP, while we certainly face many of the same challenges as every other company (material and energy costs top that list), we have an even longer list of positives that make us believe that 2008 will be an excellent year. To begin with, we're coming off a year in which our tool sales were the best that they have been in several years, and good tool sales are generally the harbinger of increased component shipments. Additionally, we have positioned ourselves to capitalize on opportunities that we see outside the U.S., with our new sales offices in Europe and Mexico. (We are, for example, actually shipping product into China.) And, as you will read elsewhere in this newsletter, our technical, sales, and marketing personnel continue to lead the industry in so many ways. So, if it's a question of the glass being half-empty or half-full in 2008, here at MPP, we're voting for half-full.



Ben James, President, MPP



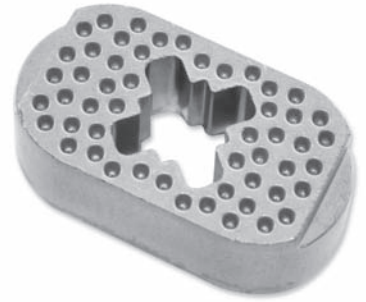
SOFT MAGNETIC PARTS

# MPP People & Products In The News

## Dr. Chaman Lall Profiled in IJPM

Dr. Chaman Lall, MPP Vice President – Technology & Applications Development, was the focus of the *International Journal of Powder Metallurgy's* Newsmaker feature in the October 2007 issue. The article details Dr. Lall's distinguished career in the powder metallurgy industry, which began in 1980 at E. I. DuPont. It also touches on elements of his early upbringing and education in England.

Dr. Lall joined MPP in 1998. He has been active in the MPIF, serving as Chairman of the Publications Committee, a member of the Standards Board, and as a speaker at numerous MPIF technical conferences. He has several publications and U.S. patents to his credit. He is a member of SAE, APMI International, and ASM International.

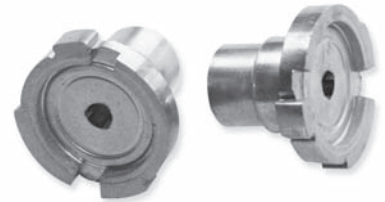


Soft magnetic shell assembly component



## MPP's George Shturtz Interviewed by Gear Solutions Magazine

MPP's George Shturtz, Sales Manager – East/Mid-Atlantic, was interviewed by *Gear Solutions Magazine* as part of their continuing series "Our Conversations with Industry Leaders". In the article, Shturtz discusses MPP's gear-making capability and history, as well as his own philosophy on building lasting customer relationships. Shturtz joined MPP in 1984.



Soft magnetic electric motor cores used in automotive seat adjustment assembly

## Bill Heath Elected President of PMPA

William A. Heath, MPP Vice President – Sales & Marketing, was recently elected as President of the Powder Metallurgy Parts Association, which is one of the six trade associations that comprise the Metal Powder Industries Federation (MPIF). Mr. Heath joined MPP in 1994. He holds BS and MS degrees in Chemical Engineering from Michigan State University and MIT, respectively, and an MBA from Stanford University.



William Heath  
Vice President, MPP



Soft magnetic brake housing for trailer axle brake

# MPP Expands International Sales Activities

The past several months have seen increased efforts by MPP to expand its presence in the international marketplace for PM components and assemblies. By utilizing the established presence of independent rep organizations, MPP has opened sales offices in Europe and Mexico. According to Marketing VP Bill Heath, "We see excellent opportunities in global markets for MPP. For example, many of our customers here in the U.S. have home offices in Europe, so it made very good sense to open our office in Belgium." Heath recently returned from a sales trip to Japan and also points out that MPP is actually shipping products into China. In addition to its Canadian sales office at MPP Canada in Blenheim, Ontario, MPP's international sales offices include:

Schotte Toolsteel  
Ghent, Belgium  
011.32.9.2263055  
Regional Sales Manager: Christian Schotte

Sinterizados de Mexico  
Queretaro, Mexico  
011.52.442.2463348  
Regional Sales Manager: Juan Manso



For a complete list of MPP sales offices, sales managers, addresses, and phone numbers, visit the MPP web site at [www.metalpowderproducts.com](http://www.metalpowderproducts.com), and click on Locations.

The Metal Powder Press is published by:

**Metal Powder Products Co.**  
17005-A Westfield Park Road  
Westfield, IN 46074  
Phone: 317-580-2420 800-783-2420  
Fax: 317-580-2444  
E-mail: [mpp@metalpowderproducts.com](mailto:mpp@metalpowderproducts.com)  
Internet: [www.metalpowderproducts.com](http://www.metalpowderproducts.com)

We welcome your comments and suggestions. Please send us the names of others who should receive this newsletter.

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Published by Metal Powder Products Company  
The Leader in PM Technology and Manufacturing

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U.S. POSTAGE  
**PAID**  
INDIANAPOLIS, IN  
PERMIT NO. 427

## MPP OFFERS FREE PM DESIGN SEMINARS

Because of the importance of end-user understanding of the basics of powder metallurgy, MPP offers free, in-house PM Design Seminars. These seminars are suggested for design engineers, purchasing and quality assurance personnel, and other specifiers of materials and components. Attendees receive the MPIF Design Solutions Guide and other valuable materials. MPP also provides lunch.

### In the Design Seminar, you'll learn:

- How to save 30%-80% compared to casting, extrusion, forging, stamping, machining, and other processes
- The basics of PM technology
- How to design for PM, including tooling design, material selection, and application factors
- How to specify PM materials
- What's new in PM
- And much, much more!

To arrange an in-house seminar at your facility, call Melinda Hightower at 800.783.2420, or call one of the MPP Sales Managers listed on Page 1.

Call 1.800.783.2420 for a free copy of our Capability Brochure

## Step through the MPPartPortal<sup>SM</sup> and see what happens!

If you haven't had a chance to use the MPPartPortal<sup>SM</sup> yet, you're missing out on a great feature of the MPP web site. Both existing and prospective customers are finding that the MPPartPortal<sup>SM</sup> is a great way to submit RFQ packages containing drawings and other documents.

The MPPartPortal<sup>SM</sup> supports AutoCAD®, ProEngineer®, Unigraphics®, and many other CAD packages, as well as almost every type of vector graphic, raster, bitmap, and word processor file, such as .igs, .dwg, .stp, .stl, .prt, .pdf, .jpg, .tif, .txt, .doc, and others.

To use MPPartPortal<sup>SM</sup>, just go to the "Contact Us" page of the MPP web site, select "RFQ Information Form" and follow the directions.

[www.metalpowderproducts.com](http://www.metalpowderproducts.com)



**Metal Powder Products Company**

17005-A Westfield Park Road, Westfield, IN 46074  
317-580-2420 • 800-783-2420 • Fax: 317-580-2444  
[www.metalpowderproducts.com](http://www.metalpowderproducts.com)

