

Complexity Simplified

In this issue, we introduce a set of components which together won the “Grand Prize” at the Powder Metallurgy Design Excellence Awards 2015. These components won the award because they epitomize the possibilities inherent in Metal Injection Molding (MIM). Continue reading to find out more.

Manufacturing Challenge

- **Earlier method :** Machined shaft welded and fastened to PM part
- **Reason for change :**
 - PM parts have low density & strength when compared to MIM parts
 - Longer supply chain owing to higher number of child components
 - Openness & opportunity to simplify the design



Catcher, Tension Bar, Base Cap and Body

Solution

- Three different metal forming technologies were replaced with MIM to create a stronger, lighter and simpler component



Engineering Challenge

- **Component completely redesigned :**
 - Coring was done to reduce part weight
 - Minimized machining to reduce material wastage

Solution

- **Air vents added in mold to allow trapped air escape :**
 - Defect-free molding
- **Temperature in mold critically controlled :**
 - Water cooling enabled consistent production

Newsletter Spotlight

The part won the “MPIF Grand Prize” in the “Off-Highway” category

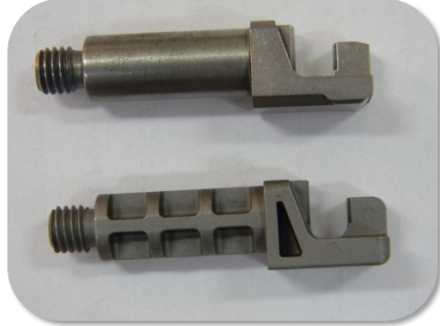
Indo-MIM created estimated cost savings of 65% over the previous manufacturing method

Indo-MIM delivers three hundred and fifty thousand pieces annually to the customer

Catcher & Tension Bar was made out of MIM 4605 low alloy steel with hardness of 42-48 HRC

Base Cap & Body was made out of MIM 17-4 PH stainless steel with hardness of 42-48 HRC

Design Advancement Through MIM



Machined Shaft + PM Hook + Welding (Top)

MIM Component (Bottom)



PM Flange + Machined Shaft + Welding (Right)

MIM Component (Left)

Indo-MIM Receiving MPIF Award For The Component



MPIF President Richard Pfungstler presented the award, at San Diego, California to Indo-MIM VP Mr. Manoj Kabre & VP Mr. Jagadish Holla

Indo-MIM Advantages

Indo-MIM reduced the manufacturing cost of the component by 65% over the previous method. No industrial pollutants were released during the manufacturing process.

Indo-MIM’s specialty lies in manufacturing highly complex parts. Mechanical properties of parts produced through MIM is superior to castings & powder metallurgy (reflecting fine particle size & high sintered density). Parts made through MIM are near net shape.

Materials We Offer

