

# Fortville Feeders

...the Workhorse of Industry

**Smart Automation**

**September, 2010**

# Industry Thoughts: The Physics of Part Feeding – it's not black magic

**Gravity:** First in a series of highlighted physical principles for part feeding.

Fortville's key to fast vibratory part feeders is a strong working knowledge of the associated physics. September's Smart Automation focuses on gravity and its effects on part feeding.

**Newton's Law's of Physics**  
and the vertical  
displacement formula



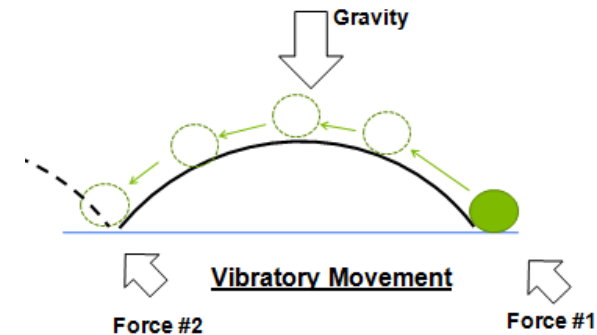
$$\Delta y = v_{y0}t - \frac{1}{2}gt^2$$

v = initial vertical velocity  
t = time  
g = gravitational constant

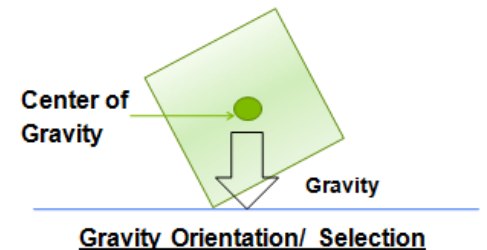


**Basically**, gravity pulls things down and dictates how fast they fall.

**Vibratory movement** is actually incrementally throwing, catching, throwing, catching, etc... forward of the object being moved (see sketch at right). Optimal vibratory movement occurs when a vibratory force is timed to occur as the part lands. The ultimate constraint is the time required for a part to fall with gravity before throwing again.



**Orientation of parts** relies heavily on over-center positioning of the center of gravity of a part – where the center of gravity of the part is positioned outside of the statically stable position - causing the part to tumble to a statically stable or correct position (see sketch). The constraint is the time required for the part to tumble with gravity to the re-oriented position.



Look for future issues to learn more about how **Fortville masters physics** to provide world-class **part feeding solutions** and is among the leaders in **Smart Automation**.

## Product Highlight:

### Part feeding system for Machining

**Application:** Precision feeding of parts to a centerless grinding operation.

**Feed Rate:** 90 PPM

#### Fortville Products:

- 15" CCW Vibratory feeder bowl
- Inline Vibratory track machined from tool steel.
- Table frame with level and height adjustment
- Sound enclosure with easy access doors and removable panels.



## Company News: Expansion of Fortville's Sales Network

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In order to better support expanding market interest in Fortville, we are pleased to announce the addition of the following outstanding sales representatives to our team:

- Ben Bailey – southeast Michigan
- Jim Gruesbeck – northern Michigan
- Steve Schumacher – southern IL, MO, KS
- Mark Beeman – southern California
- Jesse Butcher – Texas
- Joe Wojciechowski – CO, UT, WY, NM
- Bill Becker & Tom Rovnak – FL, Costa Rica, Puerto Rico, Dominican Republic
- Jose Cervantes – northern Mexico
- Delfino Gomez – central/ southern Mexico

We are saddened by the unexpected passing of Karl Sturz, one of Fortville's east coast representatives. In light of Karl's passing, Roger Hevessy will pick-up western PA with Fortville Feeders directly support eastern PA, NJ, NYC, DE, and MD in the near term. We anticipate announcing shortly a new sales rep agency to support this area.

Fortville's proven business model is to develop and produce innovative part feeding systems from a central, world-class facility – and provide excellent local support to customers through a strong team of sales representatives. Together, we look forward to successfully serving new and existing customers with this right combination of industry expertise and local support ... that's smart automation.

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Please contact us at [ffi@fortvillefeeders.com](mailto:ffi@fortvillefeeders.com) to learn more.



# Products and Services:

## Part Feeder Systems:

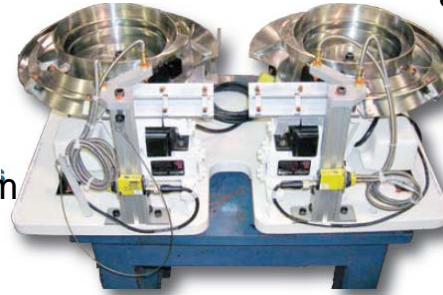


- **Vibratory Bowls:**
  - 6" to 70" in dia.
  - Feed rates to 600 pph
- **Centrifugal Bowls**

Fortville is the recognized industry leader in large, high-speed vibratory feeder bowls. Challenge us with your part.

- System design and development
- System build and validation
- System remanufacture & rework
- On-site service and support
- Service part sales

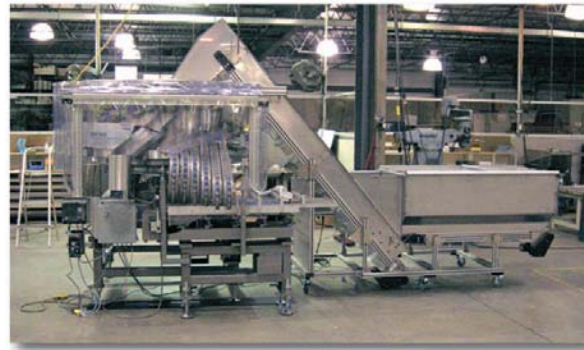
## Material Handling Systems:



- **Track Feeding Systems:**
  - 6" to as long as required
  - In-line Vibratory Tracks
  - In-line Air Tracks
  - Conveyor Belt Tracks
  - Gravity Tracks



- **Automation Mechanisms:**
  - Isolation Escapements
  - Shuttle mechanisms
  - Sensor integration:
    - Vision and weight



- **Storage/ Transport Systems:**
  - Elevators and Gondolas
  - Bulk Storage Hoppers
  - Sound Enclosures

See: [www.fortvillefeeders.com](http://www.fortvillefeeders.com)

# Contact Information:

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- Tim Butt – Business Development/ Sales
- Jason Crouse – Service/ Operations

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