Montana Manufacturing

By Paul E. Polzin
Director Emeritus
The Bureau of Business and Economic Research
Manufacturing is...

“Obsolete...”

“Rust Belt...”

“Declining...”

“The Big Whooshing Sound...”
U.S. Manufacturing Employment (2001=1.00)

Source: U.S. Bureau of Economic Analysis
U.S. Manufacturing
Real GDP (2001=1.00)

Source: U.S. Bureau of Economic Analysis
Manufacturing GDP per Worker, Constant 2009 Dollars

Sources: U.S. Bureau of Economic Analysis, Bureau of Business and Economic Research, University of Montana
## Manufacturing Employment, U.S. and Montana, 2009 and 2015

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<td><strong>Wood and Paper Products</strong></td>
<td>4,041</td>
<td>3,337</td>
<td>-17.4</td>
</tr>
<tr>
<td><strong>All Other Manufacturing</strong></td>
<td>17,179</td>
<td>21,076</td>
<td>22.7</td>
</tr>
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Sources: U.S. Bureau of Economic Analysis, Bureau of Business and Economic Research, University of Montana.
Worker Earnings in Basic Industries Montana, 2013-2015

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Federal (Civilian & Milt.)
Mining
Manufacturing
Ag. And Related
Nonreident Travel
Transportation

16%
## Manufacturing Establishments
By Employment Size, Montana 2014

<table>
<thead>
<tr>
<th>Employment</th>
<th>Number of Establishments</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>1,251</td>
<td>100</td>
</tr>
<tr>
<td>1 to 4</td>
<td>643</td>
<td>51.4</td>
</tr>
<tr>
<td>5 to 9</td>
<td>237</td>
<td>18.9</td>
</tr>
<tr>
<td>10 to 19</td>
<td>181</td>
<td>14.5</td>
</tr>
<tr>
<td>20 to 49</td>
<td>111</td>
<td>8.9</td>
</tr>
<tr>
<td>50 to 99</td>
<td>41</td>
<td>3.3</td>
</tr>
<tr>
<td>100 to 249</td>
<td>32</td>
<td>2.6</td>
</tr>
<tr>
<td>250 to 499</td>
<td>6</td>
<td>0.5</td>
</tr>
<tr>
<td>500 to 999</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>1,000 or more</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>
Earnings per Worker, Montana

- Manufacturing: $46,000
- All Workers: $39,000
## Manufacturing

<table>
<thead>
<tr>
<th>Durable goods manufacturing</th>
<th>Nondurable goods manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood product manufacturing</td>
<td>Food manufacturing</td>
</tr>
<tr>
<td>Nonmetallic mineral product</td>
<td>Beverage and tobacco product</td>
</tr>
<tr>
<td>Primary metal manufacturing</td>
<td>Textile manufacturing</td>
</tr>
<tr>
<td>Fabricated metal product</td>
<td>Apparel manufacturing</td>
</tr>
<tr>
<td>Machinery manufacturing</td>
<td>Leather and allied product</td>
</tr>
<tr>
<td>Computer and electronic</td>
<td>Paper manufacturing</td>
</tr>
<tr>
<td>Electrical equipment,</td>
<td>Printing and related support</td>
</tr>
<tr>
<td>textile, and component</td>
<td>activities</td>
</tr>
<tr>
<td>Motor vehicles, bodies and</td>
<td>Petroleum and coal products</td>
</tr>
<tr>
<td>trailers, and parts</td>
<td>Chemical manufacturing</td>
</tr>
<tr>
<td>Other transportation</td>
<td>Plastics and rubber products</td>
</tr>
<tr>
<td>equipment manufacturing</td>
<td>manufacturing</td>
</tr>
<tr>
<td>Furniture and related product manufacturing</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous manufacturing</td>
<td></td>
</tr>
<tr>
<td>Rank</td>
<td>Montana</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
</tr>
<tr>
<td>1</td>
<td>Wood Products</td>
</tr>
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</tr>
<tr>
<td>------</td>
<td>-------------------</td>
</tr>
<tr>
<td>1</td>
<td>Wood Products</td>
</tr>
<tr>
<td>2</td>
<td>Food Products</td>
</tr>
</tbody>
</table>
## Rank Order of Manufacturing Industries, Employment

<table>
<thead>
<tr>
<th>Rank</th>
<th>Montana</th>
<th>U.S.</th>
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<tbody>
<tr>
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<td>Wood Products</td>
<td>Food Products</td>
</tr>
<tr>
<td>2</td>
<td>Food Products</td>
<td>Fabricated Metal Products</td>
</tr>
<tr>
<td>3</td>
<td>Fabricated Metal Products</td>
<td>Machinery Manufacturing</td>
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<td>Machinery Manufacturing</td>
</tr>
<tr>
<td>4</td>
<td>Miscellaneous Manufacturing</td>
<td>Computers and Electronics.</td>
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AMERICAN CHEMET CORPORATION

PRODUCTS TO MOVE, FEED, AND SHELTER THE WORLD

American Chemet Corporation, established in 1946, is a privately owned manufacturer and marketer of metal-based chemicals.
Great Falls, Montana, USA

Fabrication Plant, Module Assembly Yard and Paint Shop

**ANNUAL FABRICATION CAPACITY:**
25,000 TONS

- Fabrication plant of 9,290 m² (100,000 ft²)
- Specialized paint shop of 5,200 m² (56,000 ft²) (June 2014)
- 100-acre lot, 70 acres of which for pre-assembly of modular steel construction work

Areas of expertise
HARRIS MANUFACTURING
Missoula County Montana

Our Simple Business Philosophy:
- High Quality Manufacturing
- Outstanding Customer Service
- Competitive Pricing
- On-Time Deliveries

Montana Facility ready for operations
November 1st, 2014

- Sister Company — Harris Thermal Transfer Products
drawing from over 125 years of experience
- Custom Fabrication of Stainless & Duplex, Nickel Alloys,
  Titanium & Zirconium
- Custom Engineering
- Complete Thermal and Mechanical Design
- Specialized Welding including Pulse MIG, TIG, Subarc,
  Overlay, etc.
- Complete Machine Shop for Drilling, Milling and Turning
  up to 16"-GT-diameter
- Heat Exchanger, Vessel, and Tank Repairs
- In House ASNT Qualified NDE including:
  - Liquid Penetrant Inspection (Level I & II)
  - Ultrasonic Testing (Level II & III)
  - Digital Radiography (Level II & III)
- Other NDE including:
  - Positive Material Identification
  - Ferrite Testing
  - Hardness Testing
  - ASME Code "U" & "R" Stamps
  - ASME B31.1 Power Piping "PP" Stamp
  - API 520-65/660 "API" Stamp
  - CE Stamps for exports to the European Economic Area
  - Canadian Registration Identification for all Provinces of
    Canada (CRN)
  - TEMA Compliant for Shell & Tube Heat Exchangers

8129 Cowboy Trail • Bonner, Montana 59823 • 1-800-767-9507
Billings Refinery

The Billings Refinery is one of three large refineries in the United States at a site owned by ExxonMobil. It is located in Billings, Montana, and processes petroleum into a variety of fuels and lubricants. The refinery has a capacity of 75,000 barrels per day and is one of ExxonMobil's largest refinery complexes.

The Billings Refinery supports employees in a number of ways, including a comprehensive employee assistance program, on-site fitness center, and a variety of other amenities designed to enhance the well-being of employees.

One area of focus at the Billings Refinery is sustainability. The refinery has invested in various initiatives to reduce its environmental impact, including improving energy efficiency and reducing emissions.
ENERGY & INDUSTRIAL

REFINING
Largest cooperative refiner and growing.

CHS provides member-owners and other customers with dependable supplies of quality refined fuels from our own refineries for more than seven decades. As the nation’s largest cooperative refiner, CHS sells more than three billion gallons of refined fuels annually.

Our state-of-the-art facilities and skilled workforce make sure we’re delivering a continuous supply of quality gasoline and diesel products. And we’re always looking to the future, continuing to invest in our refineries, pipelines and terminals to meet our customers’ growing demand. Our pipelines move our refined products throughout the Upper Midwest, helping to ensure our farmer-owners have the quality fuel they need, when they need it.

CHS Refinery at Laurel

Our Laurel, Mont., refinery has a 56,000 barrels-per-day refining capacity and distributes products throughout the northern tier of the U.S. A multimillion-dollar project is under way that will increase refinery production of gasoline and diesel products to 880 million gallons per year. CHS purchased the Laurel refinery in 1943. You can reach the main office at 406-628-5300.
Get Growing.

Loveland Products offer a complete line of high performance crop products, a remarkable lineup of seed treatment products, fertility, adjusted and co-products the products are second to none. We are committed to excellence in farming and are located in Loveland in the heart of innovation solutions to problems across the agricultural and professional golf industries.

FEATURED SOLUTIONS

- MAAZE
  A biocontrol product from Loveland Technology. A biocontrol product is a biological control agent that reduces or eliminates pest populations. MAAZE is a biocontrol product that reduces or eliminates pest populations. MAAZE is a biocontrol product that reduces or eliminates pest populations. MAAZE is a biocontrol product that reduces or eliminates pest populations.

- CONSENSUS
  A product from Loveland Technology. CONSENSUS is a product that provides a range of benefits to crops. CONSENSUS is a product that provides a range of benefits to crops. CONSENSUS is a product that provides a range of benefits to crops.

- LEDI-TECH
  A product from Loveland Technology. LEDI-TECH is a product that provides a range of benefits to crops. LEDI-TECH is a product that provides a range of benefits to crops. LEDI-TECH is a product that provides a range of benefits to crops.

- LEVIIT
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- TITAN R
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- EQUITY
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The New LDC-37620 High Power Laser Diode Controller

ILX Lightwave™ - Since 1984, with the introduction of the first bench-top precision laser diode current source, we have continued to develop our precision measurement and control technology to offer a full line of innovative instruments, test systems and accessories. ILX Lightwave products are used throughout the world in research and development labs and production areas, wherever photonic technology is advancing. We maintain our market leadership through the relentless pursuit of quality, performance, and innovation.

Resources & Quick Links
- Application Notes
- Technical Notes
- Technical Articles
- Tutorials
- Literature
- Discontinued & Obsolete Product Guide

Laser Diode Drivers
Laser Diode Controllers
Laser Diode Temperature Controllers
Laser Diode Mounts

Modular Laser Diode Controllers
Optical Power and Wavelength Meters
Laser Diode Control Kits
Laser Diode Testing

Laser Diode Control Accessories
Gentry Custom LLC

WELCOME TO GENTRY CUSTOM

Gentry Custom LLC offers custom gunsmithing and gun building. We modify firearms to your specific needs whether hunting or sport shooting. Our exclusive product line includes our Three Position Safety for many makes and models and our Quiet Muzzle Brake, which will reduce recoil and direct the hot gas and noise away from the shooter’s face. All of our products are manufactured in-house and we offer the service to install our products on your rifle.
A Resourceful Company for Resource Companies

At the foot of the Pintlar Range of the Rocky Mountains, in the heart of historic Montana mining country, a tradition of excellence continues. The Tuttle Manufacturing Company opened its factory in the 1880's. Later it was taken over by Copper King, Marcus Daly and his Anaconda Copper Company. Today, it's AFFCO, a proud company, marrying the artistry of days gone by with modern and innovative technological processes.

AFFCO has grown over the years to a company of extraordinary diversity. All in the singular effort of providing its resource-based customers with an incomparable variety of manufactured products and services. Products and services of uncommon quality and workmanship. AFFCO is proud of its heritage and committed to the future.

Through the years, AFFCO has forged great relationships with many fine customers. The rewards go beyond the work and extend to the many people affiliated with these companies. An example is an article re-printed from the Holstein, Inc. March, 2000 Newsletter.

We welcome you on this visit. Please browse through our departmental pages and come back again often. If you have a question, comment or require any additional information on AFFCO operations, please submit our feedback form by clicking here.

Click here to read a comprehensive history on the AFFCO plant from its late 19th century beginning, commencing with the Tuttle Manufacturing and Supply Company, to the Foundry Department of the Anaconda Mining Company, through to the modernizations and innovations of AFFCO's operations today.
We are the leader in materials engineering solutions used to produce virtually every new chip and advanced display in the world. Our expertise in modifying materials at atomic levels and on an industrial scale enables customers to transform possibilities into reality. At Applied Materials, our innovations make possible the technology shaping the future.
Welcome to S & S Campers! We are proud to be your premier source for all your RV parts and accessories in the Flathead Valley. As always, we continue to offer the largest selection of both fiberglass and aluminum constructed truck toppers (also known as truck caps) in the greater Kalispell area. We also proudly offer a full line of truck accessories including Grille Guards, Tub Steps, LED Lighting, Floor Mats, etc.

Visit our S & S Campers page for more information and contact details.

Welcome!
Montana Manufacturers’ Outlook
Montana Manufacturers’ Outlook for 2017

Employment Change:
- Decrease: 4%
- Same: 57%
- Increase: 38%

Overall Outlook:
- Worse: 8%
- Same: 37%
- Better: 55%
Montana Manufacturers Expecting Better, 2017

- Fabricated Metal Products: 84%
- Food Products: 67%
- Wood Products: 50%
- Machin. Man.: 46%
Montana Manufacturing Exports, (millions of current dollars)
Montana’s High-Tech Industries
Number of members doubled from 2014 to 2015

Surveyed businesses generated $867,000,000 in gross sales in 2015

Surveyed businesses employed 3,574 workers in 2015

Surveyed businesses expected a 19.4 employment growth rate in 2016

Surveyed businesses reported average worker wages of $65,126, well above statewide average of $39,372.

Surveyed businesses very bullish about future capital investment plans in Montana.
Questions?