

Philly Gear: A Long Life, A New Direction

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Large marine gearboxes. More than a year in production, each weighing 125,000 pounds, the gearboxes were for U.S. Navy amphibious ships, for combining the power of 10,000 hp diesel engines to drive propeller shafts.

They were also the last major gear products shipped from Philadelphia Gear Corp.'s King of Prussia factory.

A mecca of the gear industry was closing. For more than 40 years, the mammoth factory (625,000 square feet) was a symbol of Philly Gear. It was the embodiment of a company with a long, storied history.

In 1892, Philly Gear was founded by gear pioneer George B. Grant, builder of the first hobbing machine for cutting spur gears. In 1916, it was one of nine gear companies to found the American Gear Manufacturers Association. In World War II, it was manufacturing 14-foot ring gears for battleship rotating gun turrets, for America's "arsenal of democracy."

In 2001, though, Philly Gear was struggling to survive, and its blue-and-white factory no longer fit into its future.

But the closing was part of a plan. Started in 1998, the plan called for transforming then 106-year-old Philly Gear into a company fit for the new economic order.

A New Direction

In 1998, Philly Gear faced up to a growing problem. Foreign competition was reducing the profitability of the U.S. gear industry. Many products manufactured overseas were proving cheaper and equal or near equal to those manufactured in the United States. Jules DeBaecke, Philly Gear's vice president of engineering, summed up the situation: "Too many suppliers and not enough customers."

So the company decided on a new direction: serve the aftermarket. For Philly Gear, the aftermarket looked more profitable than manufacturing gears for new industrial operations.

Also, the company appeared well positioned to serve the aftermarket needs of the energy industry through its satellite sites in California, Delaware, Illinois and Texas. Russ Ball, chairman and CEO of Philly Gear's parent company, explains the sites were in areas populated with power plants. In the new strategy, the sites would be made into regional service and manufacturing centers.

Today, Philly Gear's top three industries are energy related: power generation, oil refining, and petrochemical.

As part of its new direction, Philly Gear changed its very



Philadelphia Gear Corp.

Established: 1892

No. of Employees: 150-200

Industries Served: Power Generation, Oil Refining,
Petrochemical, Marine, Cement

Major Products: Gear Drives, Helical Gears, Planetary
Gears, Spiral Bevel Gears, Straight Bevel Gears,
Spur Gears

Quality Registrations: ISO 9001-2000

Website: www.philagear.com

Industry Affiliations

- American Bearing Manufacturers Association (ABMA)
- American Gear Manufacturers Association (AGMA)
- American National Standards Institute (ANSI)
- American Petroleum Institute
- ASM International
- ASME International
- Association of Iron and Steel Engineers
- ASTM International
- Heat Treating Society
- International Organization for Standardization (ISO)
- Society for Mining, Metallurgy, and Exploration
- Society of Naval and Marine Engineers



In 2001, a factory gave way to an office suite. While reorganizing itself Philadelphia Gear Corp. moved its headquarters from its King of Prussia factory to a Norristown office building.

nature, from its physical structure to its employees' culture.

A New Structure

The first major changes in structure came in '01. In February, Philly Gear moved its executive and engineering staff from the King of Prussia factory to an office suite in nearby Norristown, another Pennsylvania city. In July, the last gearbox was shipped from King of Prussia.

Besides closing the factory, Philly Gear added a regional center in Alabama. Today, the five centers allow a national customer to deal with one company for all of its locations and allow a regional customer to use the center nearest its operations. Also, the California center provides specialized gear manufacturing.

Changes in structure involved changes in personnel, too. Philly Gear declines to provide exact numbers, but it employs about 10 percent fewer people today than it did in 2001.

Besides these changes, the company also brought its archive into the digital age.

A New Archive

Philly Gear wanted its employees to have quicker, more independent access to its records, to improve efficiency.

Previously, Philly Gear's archive was two iron mountains. Filing cabinets filling two warehouses contained the company's paperwork, including technical drawings, service records and sales information—some 600,000 paper documents. To access them, employees across the country faxed requests to the Norristown office.

If stored electronically, though, the archive could be accessed directly by employees via computer. So Philly Gear took its papers and converted them into digital images, a \$1 million project.

Today, engineers and other employees, in Norristown and elsewhere, have access to the documents via a password-protected intranet.

Those records are useful to Philly Gear as an aftermarket supplier whenever it's called to service its brands of power transmission products.

But Philly Gear services more than its own products. The company expanded its repair and upgrade services to include more than 30 other brands of products.

According to DeBaecke, serving many brands of products increased Philly Gear's pool of possible customers.

Although focused on the aftermarket and the energy industry, the company still serves all industries on request and has both foreign and domestic customers. Industries still receiving new Philly Gear products include power generation, sugar processing, rubber, cement, pulp and paper, petrochemical and marine.

Aftermarket Services

"They have excellent repair services," Stephen Goodberry says.

Goodberry is lycra® maintenance planner for Invista Inc. He plans all maintenance work for the fiber and chemical company's lycra-making machines, including their gearboxes. He also obtains the parts to keep the machines running.

In his job, he's worked directly with Philly Gear for 10-plus years. In the past, he's mainly used them as an OEM for new parts for new projects and for replacement parts. The last few years, though, he's also been using them as an aftermarket supplier, in part for repair services.

And why are those services excellent? Quick replies to calls, listening well, and expedited, quality repairs, Goodberry says.

"Once it's repaired," he adds, "it's fixed for good."

For example, three years ago, Goodberry learned of an impending problem with the gear reducers in his lycra spinning machines. Oil ferrography and vibration analysis showed excessive gear wear in the boxes.



President and CEO Carl Rapp stresses Philly Gear's new aftermarket, service strategy to employees, reminding them "what the scoreboard says and how the strategy's being executed."

The problem: Invista hadn't specified the boxes correctly; the oil pumps weren't the right size.

Goodberry contacted Philly Gear, and the companies got to work on the problem. They were looking at fixing 21 boxes in the lycra division, located in Maitland, Ontario, Canada.

The boxes were switched out three at a time, sent to Philly Gear, who quickly turned them around, and then put back in their machines. In

COMPANY PROFILE

about a year, all the boxes were fixed.

"We were able to overhaul all 21 gearboxes before we sustained any downtime due to equipment failure," says Goodberry.

A New Culture

Philly Gear had long focused on engineering and quality and on OEMs, but Carl Rapp, president and CEO, says: "It wasn't as sensitive to customer service."

That culture may have been possible in the past, but times have changed.

"Customers do have other options out there," Rapp says.

In Rapp's opinion, Philly Gear had already taken a crucial step toward a new culture when he joined the company in September '01. Earlier that year, Philly Gear had closed its King of Prussia factory—in effect, severing ties with its past.

That closing and the opening of the Alabama regional center made clear: The new strategy wasn't empty talk, it was real change.

To improve service, the company increased its on-time delivery, communicated more with customers and improved its sales force through new hires and more in-house training.

Philly Gear also changed its culture through communication, communication and communication.

"We reinforce regularly what it is we're all about," Rapp says. "What the scoreboard says and how the strategy's being executed."

The reinforcement comes in newsletters and monthly and quarterly business updates. For the quarterly updates, Rapp visits each regional center and talks to every Philly Gear employee.

Rapp says changing the culture took more than 18 months. "It was bumpy," he adds. "I think we've come through the toughest part."

The Outlook

Philly Gear's new direction seems to be paying off. The company's aftermarket business has been growing annually.

And that performance is noticed by Russ Ball at American Manufacturing Corp., Philly Gear's parent company: "I am extremely bullish on the Philadelphia Gear strategy."

Transformed by the strategy, the company continues to manufacture power transmission products for customers, including the U.S. Navy. At its California center, Philly Gear is still manufacturing 125,000-pound gearboxes for Navy amphibious ships. ◉