600 Series Gear Motor

Combine Header OEM Reduces Harvesting Time with More Efficient Side Draper Motors

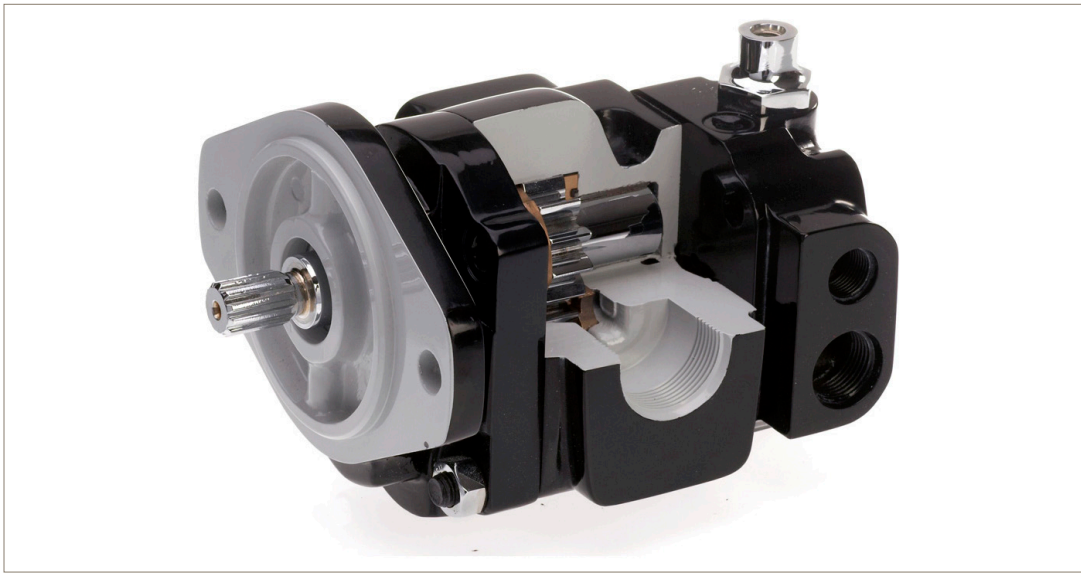
The Challenge

Since the first horse-powered farm equipment was put into use, much has changed when it comes to agricultural equipment. Much of the power needed for equipment like combines and harvesters to function is transferred via hydraulics. Hydraulic motors provide the torque and propulsion to keep many of these machines moving.

Many modern combines utilize hydrostatic drive systems with propel motors or wheel motors. The propel motors provide the needed thrust to harvest as much as possible regardless rolling terrain or crop conditions.

Similar to most agriculture equipment, speed and efficiency is critical to combine productivity. The faster the draper belts used to harvest on this particular OEM's header used a low speed high torque (LSHT) motor to move the crop through the machine. However, the OEM wanted to enhance the speed and efficiency to increase the combine header productivity. To increase the speed of the combine, the side drapers and center drapers must move faster. While excellent at transmitting torque, LSHT motors generally have a maximum of 800rpm. To increase productivity, this OEM needed 1100rpm, which can be attained by a gear motors. However, gear motors are most efficient at high speeds (1400rpm).

With this engineering challenge, the OEM approached Parker to develop a motor that could meet but not exceed performance requirements.



The Parker Approach

OEMs and farmers alike realize that successful combine harvesting starts with the right header components. After all, you can only process what you actually put into the machine.

Knowing the needs of the OEM, as well as the importance to minimize costs, Parker engineers examined the ideal performance for this OEM's combine. If existing technology was not the answer, Parker would develop something new.

For instance, when considering existing product lines, the 620's design elements looked promising. However, the interlocking flange design and the unique thrust plate design (optimize pressure balancing) reduced the efficiency within the lower speed range the OEM requested.

After developing a proof of concept and prototypes for this OEM, Parker launched the 600 series gear pump to provide the speed required for draper belts, while running efficiently at the requested 1100-1300 rpm.

Customer Outcome

While the development of a motor at reduced speeds sounds simple, it wasn't. Many equipment manufacturers are collaborating with manufactures on enhanced motors to increase productivity for their customers.

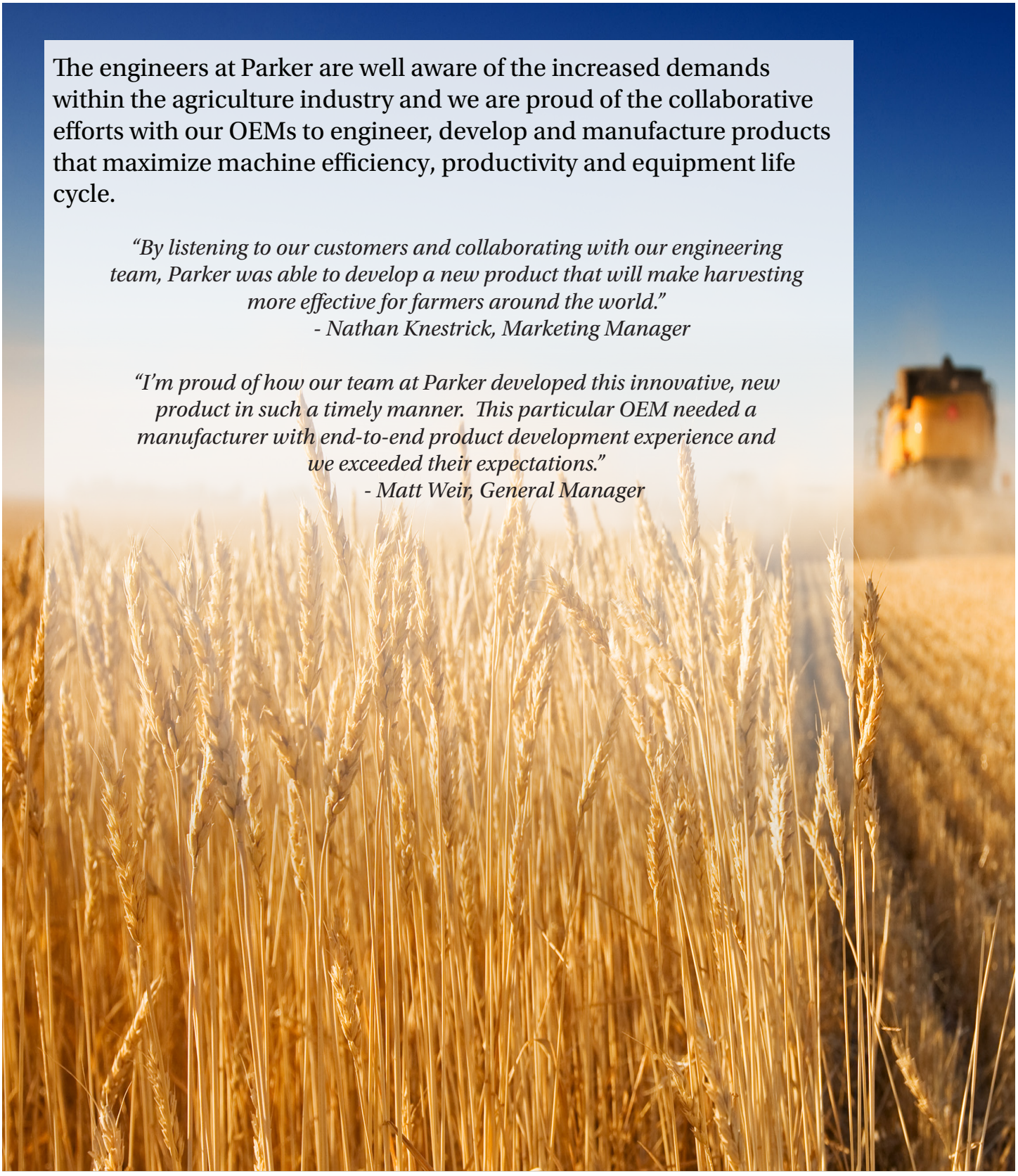
Since Parker's 600 series motor has been in the field, customers are seeing an increase in equipment efficiency, performance and harvest time with the OEM's new draper technology.

This successful OEM/Parker partnership resulted in:

- Reduction in downtime
- Improved equipment performance
- 10% lower average cabin vibration levels
- Reduced vehicle maintenance costs
- Faster harvest times

Parker

ENGINEERING YOUR SUCCESS.



The engineers at Parker are well aware of the increased demands within the agriculture industry and we are proud of the collaborative efforts with our OEMs to engineer, develop and manufacture products that maximize machine efficiency, productivity and equipment life cycle.

"By listening to our customers and collaborating with our engineering team, Parker was able to develop a new product that will make harvesting more effective for farmers around the world."
- Nathan Knestrick, Marketing Manager

"I'm proud of how our team at Parker developed this innovative, new product in such a timely manner. This particular OEM needed a manufacturer with end-to-end product development experience and we exceeded their expectations."
- Matt Weir, General Manager

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