

Winter 2018 | Issue #47

THE PLOWSHARE

History for John Deere Collectors



JOHN DEERE



OUT OF THE VAULT: JOHN DEERE 34 FORAGE HARVESTER

Introduced in 1966, the John Deere 34 Forage Harvester was advertised as "low-cost," and "built for average-sized acreages." It featured a built-in knife sharpener that "can't be equaled." It was light enough that a 53-horsepower 2020 Tractor could haul it in rough conditions, but strong enough that it could also operate effectively with a higher horsepower 4020 Tractor.

According to a 1971 advertisement, the 34 Forage Harvester looked more like the "jaws of a hungry barracuda than any previous row crop attachments."



Welcome to the Winter 2017-18 Issue

The invention of the tractor brought about dramatic change to American farmers in the early 20th century, yet in spite of the numerous benefits of mechanization, it took nearly sixty years for tractors to outnumber horses on American farms. Change takes time, and does not always occur in a straight line!

Here at The Plowshare, we are excited about our own upcoming change. As part of our transition from print to digital, we have received plenty of feedback about the amount and types of content our readers want to see. First, they want more content. Specifically, more vintage photos, film, and advertising samples. We value your feedback and are happy to say those suggestions are leading to some exciting enhancements.

For the next two issues, we will continue to deliver The Plowshare via email with a link to the latest edition. Also, we will begin publishing the feature article and videos on our new home, the History section of the [John Deere Journal](#). Here you can see some of the additional content we can feature on the platform.

The John Deere Journal offers many advantages and new tools that I think you'll enjoy. First, you don't have to wait for the latest content. By subscribing, you will receive email notifications whenever new content is posted instead of having to wait until the next issue. Second, look for more photographs, video, and vintage ads. The John Deere Journal gives us the ability to link to more content, including sources unique to the John Deere Archives. I encourage you to read some of the recent articles, including the restoration of the "Bathtub D," the development of the All-Wheel Drive tractor, and the debut of the John Deere Waterloo Boy at the National Tractor Demonstration in 1918.

If you can't get enough of vintage green and yellow equipment, you're going to love the History section of the [John Deere Journal](#), your new source for everything related to John Deere's heritage.

Keep your ideas coming!

NEIL DAHLSTROM

Manager, Corporate Archives & History

 facebook.com/JohnDeere

 instagram.com/JohnDeere

 youtube.com/JohnDeere

 twitter.com/JohnDeere

SMITHSONIAN MUSEUM TO CELEBRATE 100 YEARS OF JOHN DEERE TRACTORS

The oldest existing John Deere plow, a 1918 Waterloo Boy tractor, and a first generation GPS receiver. What do they have in common? They will all be seen by millions of visitors in 2018 during an exhibition at the Smithsonian's National Museum of American History in Washington, D.C.

This winter, the museum opens two new temporary exhibits as part of their "American Enterprise" exhibition. The exhibition chronicles the interaction between capitalism and democracy, and features the progress of American agriculture. The museum will mark the 100th anniversary of John Deere's entry into the tractor market and the role that tractors continue to play in feeding a growing world. The exhibition will explore the massive change in farming practices brought about by the innovation of lightweight, mass-produced tractors.

"We're thrilled that the Smithsonian is using John Deere's 100 years in the tractor business as a foundation to explore the broader theme of agricultural mechanization and its exciting future," said Neil Dahlstrom, manager, Archives & History at John Deere.

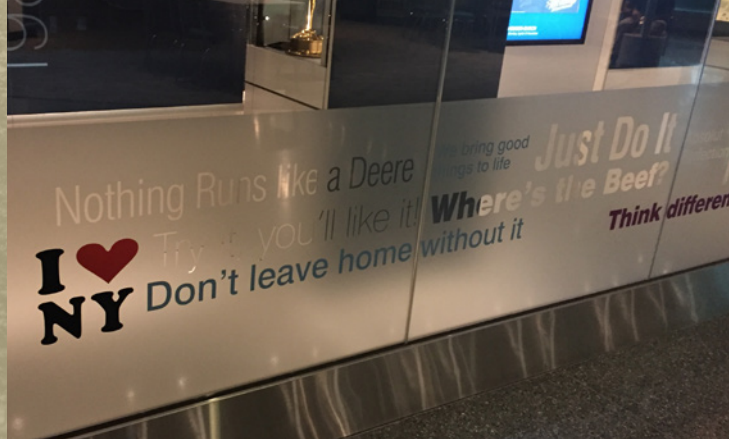
Replacing a sleek, silver 1948 Tucker automobile at the entrance of the American Enterprise exhibit will be a 1918 Waterloo Boy Tractor owned by the museum. Displayed with historic images and advertisements, the Waterloo Boy represents a significant transition to mechanization, as farmers began to adopt one and two-bottom tractor plows fueled by gasoline and kerosene after 1913. "As the entrance icon to the American Enterprise exhibit, the Waterloo Boy provides a rich story on innovation, production, and marketing success," noted Peter Liebhold, curator, Division of Work and Labor, at the museum.

Within the American Enterprise exhibition, a new display titled "Precision Farming" will examine a more contemporary story of disruptive technology in today's agriculture industry including a GPS antenna donated by John Deere. "The adoption of new technologies throughout the years, including tractors in the early 1900s and GPS today, illustrate American farmers' ongoing willingness to improve efficiency and create more sustainable operations," said Liebhold.

In addition to ongoing food and agriculture programs, the Smithsonian's National Museum of American History is also developing new and updated

programming around the theme of tractors and innovation, including:

- **Ask a Farmer:** The popular program will feature a conversation about past and present mechanization on the family farm with agricultural historians and farmers.
- **Prototyping in 2018-Tractor History:** A new hands-on activity exploring the history of tractors, developed with the Wonderplace early learning team, for children 6 and under.
- **Food History Weekend:** As part of the fourth annual Food History Weekend on November 1-3, 2018, the museum will explore innovations in tractor history and agricultural mechanization.



A CENTURY OF ENGINES

*ANOTHER MILESTONE
FOR JOHN DEERE*

Excitement is mounting for the rapidly approaching 100th anniversary of John Deere's purchase of the Waterloo Gasoline Engine Company, maker of the Waterloo Boy tractor. For many, March 14, 2018, marks 100 years of John Deere tractors. But this date also commemorates an important milestone for another important piece of the company's product line: the gasoline powered engine. The combination of the Waterloo Gasoline Engine Company's tractor line, and its wide variety of stationary engines, would reshape the history of John Deere.

The Waterloo Boy stationary engine, however, was not the first time John Deere sold engines. The company's entry into the engine market actually began with the Root & VanDervoort Engineering Company of Champaign, Illinois.

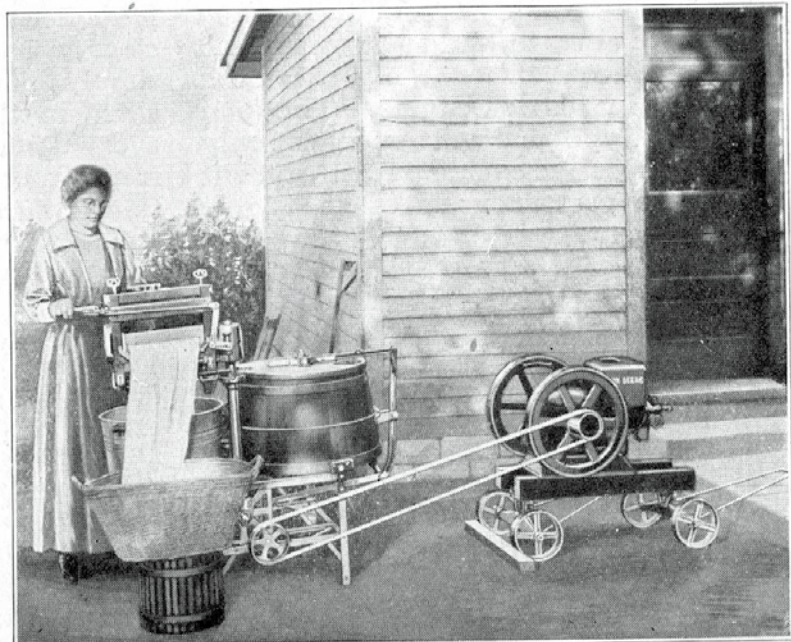
Incorporated in 1900 by Orlando Root and William H. VanDervoort, the R&V company relied heavily on its connection to John Deere. As that partnership grew stronger, R&V relocated its manufacturing facilities to East Moline, Illinois, in 1907. By 1912, almost every engine produced by Root & VanDervoort was sold through John Deere's vast dealership network.

Beginning in 1915, R&V interests expanded beyond the agricultural market and into the automobile industry. A few years later the company merged with the Moline Automobile Company to focus more energy on automobile production. It was around this time that John Deere began to seriously consider purchasing an outside company capable of producing both tractors and engines. With the acquisition of the Waterloo Gasoline Engine Company in March 1918, those hopes became a reality.

JOHN DEERE Type "E" Gasoline Engine

BATTERY EQUIPPED

**Extremely Simple
Starts Without Adjustment
Runs Without Attention
Exceptionally Economical
Remarkably Long-Lived**



Waterloo Gasoline Traction Engine Company

Originally incorporated in 1893 as the Waterloo Gasoline Traction Engine Company, the business' primary focus was the John Froelich-designed traction engine. But production stalled and early versions of the tractor failed under the rigors of field use.

The stationary engine, largely an afterthought to Froelich, a partner of the company, ended up being the one reliable product the company could sell.

Recognizing this fact, the Waterloo Gasoline Traction Engine Company Board of Directors chose to reorganize the business in 1895. While this new company, the Waterloo Gasoline Engine Company, would remain interested in the idea of a farm tractor, the stationary engine would become its staple product.

Under the leadership of Chief Engineer Louis W. Witry, the company's engine line expanded to include seven Model "H" engines ranging in size from 2- to 14-hp and a larger 25-hp Model "T." Though not the largest stationary engine company in the world, the engine line, dubbed the Waterloo Boy and represented by a cherub-faced farm boy, soon attracted customers from coast to coast, and even into Canada and Europe.



No. 710,647.

L. W. WITRY.

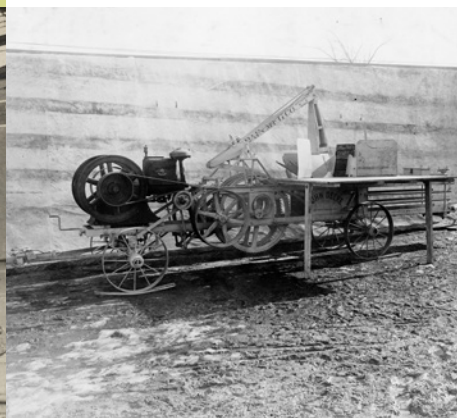
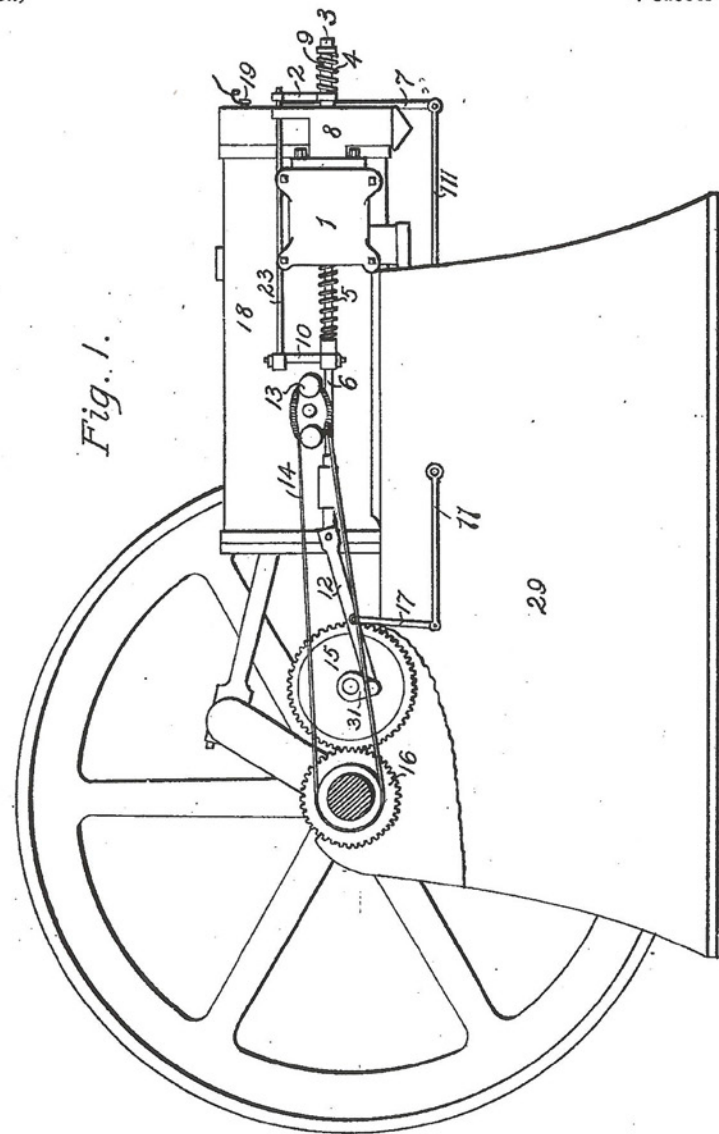
Patented Oct. 7, 1902.

SPEED REGULATOR FOR EXPLOSIVE ENGINES.

(Application filed June 11, 1901.)

(No Model.)

4 Sheets—Sheet 1.



GREAT NATIONAL RACE

60 Grand Prizes for the DEALERS



who sell the most WATERLOO BOYS (IS THIS YOU?)

HERE is something big—a great friendly trade contest of National scope and interest, with prizes for the winners well worth anybody's best efforts. Open to all hardware and implement dealers who sell the Waterloo Boy—and over 5,000 of the most progressive and successful dealers in all parts of the country are already competing.

For this contest, all America has been divided into twenty districts and THREE BIG FREE PRIZES will be given to the three dealers in each district who make the biggest sales of total number of horse power of

WATERLOO BOY GASOLINE ENGINES

between January 1st and June 30, 1912—a 4 H. P. Waterloo Boy (skid mounting) for first prize; a 2½ H. P. Waterloo Boy (skid mounting) for the second highest record, and for the third prize, a 1½ H. P. Waterloo Boy (skid mounting). **Sixty prizes in all for the sixty successful dealers.**

The record of the Waterloo Boy has never been equalled. It is now in its twentieth year of unbroken success—always the simplest, BIGGEST SELLING, most durable, LOWEST PRICED high grade engine on the market—built in one of the biggest engine factories in the world, with annual capacity of nearly 40,000 complete engines.

But this year is going to be bigger and more successful still, because, to the momentum of 19 years' success is now added the impetus of a decisive victory over all competitors—winning gold medals at Budapest, Hungary, July, 1911, and at Turin, Italy, September, 1911, in open competition with all nations of the globe, which PROVES the Waterloo Boy

THE BEST GASOLINE ENGINE IN THE WORLD

Now is the time for YOU to get into the race and win a big prize. You have as good a chance as anybody, with the CERTAINTY of bigger sales and profits than any other engine can give you. Write today for full details.

WATERLOO GASOLINE ENGINE CO., WATERLOO, IA.




"E" Series Engines Introduced

The introduction of the Waterloo Boy tractor in 1912 soon became a major addition to the company's product line, requiring further developments in engine design. With a full line that included both tractors and stationary engines, the Waterloo Gasoline Engine Company was an attractive acquisition for John Deere.

In the years after the purchase, Deere continued to sell Waterloo Boy engines largely unchanged. But by 1920, it was apparent the old design was outdated, and production began on a new stationary engine in Waterloo. This new design included an enclosed crankcase, allowing the engine to be self-oiled. Though this proved a major improvement over previous models, oiling the machine was still an inconvenient and messy job.

Waterloo engineers went to work looking for ways to decrease the amount of oil lost during operation. In 1922-23, around the same time as the introduction of the historic Model "D" tractor, John Deere

released the "E" series of engines.

The engines were originally produced in 1½-hp and 3-hp versions, with a larger 6-hp model added in 1926. Customers requiring more power could purchase the 27-hp Model "W" engine, similar to the engine that powered the Model "D" tractor.


Slight variations were made through the years (including the "EK" that burned kerosene, and the "EP" that was made primarily for work on binders and grinders) but the dependable, consistent design of the "E" engine made it a key component of John Deere's product line. The final Model "E" engine was produced in 1946. With more than 130,000 engines produced in 24 years, it proved to be one of the most popular engines ever sold.

But engine production was not limited to the stationary product line. Tractors also required an engine. From its earliest days, John Deere tractors relied on the consistent and reliable power of its two-cylinder engines. Long after some

competitors moved to other designs, John Deere stayed with the tried and true two-cylinder engine. With its simplicity of operation and lower fuel costs, a two-cylinder-powered tractor was exactly what the modern farmer required.

JOHN DEERE

TYPE E



The Enclosed Engine That Oils Itself

Vital parts completely enclosed—protected against metal-cutting sand and dust.

Vital parts run in both of clean oil—automatically lubricated.

No grease cups or lubricators to watch—it runs without attention.

Wearing parts hardened to resist wear.

Saves adjustments and repair expense.

Starts easily in all kinds of weather. The boys and women folks can run it.

Built in 1½, 2, 3, and 6 H. P. sizes. Can be furnished with portable tank.

Economical Power

WORKS, WASHES, CUTTERS, DISKS, GRINDERS, CRACKING, CRACKING, CRACKING, CRACKING, CRACKING.

JOHN DEERE PUMPING OUTFIT

John Deere enclosed pump jack driven from fly-wheel of John Deere Type E engine.

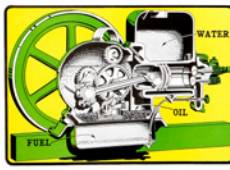
No belts, gears or chains for the truck to get in the way.

Compact—requires little space.

Worn and gear drive on jack enclosed and automatically oiled.

Starts this outfit and it will run without attention until fuel is exhausted—no oiling worries.

Jack can be furnished separately for operation with belt. The belt pulley on jack is regular equipment.



This illustration of engine cut in two shows: Complete enclosure of working parts; automatic oiling system; simplicity of design.

John Deere and Deere are registered trademarks of John Deere.

Write for John Deere literature and see our complete line of farm and industrial equipment.

In 1937, Vice President and General Manager of the John Deere Tractor Company L.A. Rowland confidently stated “the John Deere two-cylinder engine has been so outstandingly successful that there is no thought of a change.”

John Deere’s commitment to the two-cylinder engine did not stifle innovation. The Model “R,” introduced in 1949, was the company’s first diesel engine, providing customers with over 40 hp at the drawbar and the belt pulley. Customer demands for more power encouraged additional improvements and eventually taxed the limits of what a two-cylinder could efficiently accomplish.

The New Generation of Power

In the early 1950s, a small team of engineers began work on one of their most ambitious projects. The goal was to redesign the entire John Deere tractor from the ground up. In 1960, John Deere introduced its 300- and 400-Series engines. These four- and six- cylinder units supported John Deere’s “New Generation of Power” tractors, including the models 2010, 3010, and 4010. The engines helped John Deere become the number one company in the agricultural industry.

As the John Deere tractor line continued to evolve throughout the 1970s and 1980s, engines also became integral to the company’s future. In 1973, the company announced plans to build a new engine facility in Waterloo. The first engines were assembled at the new facility in February 1976 and supplied power to the company’s tractors, industrial equipment, combines, and forage harvesters.

In addition to providing engines for John Deere machinery, Waterloo Engine Works also produced marine engines and original equipment manufacturer (OEM) engines for a variety of different companies and applications.

More recently, the challenges confronting engine design and manufacture have gone beyond simply greater horsepower. In the early 1990s, the United States mandated rigorous new standards for non-road diesel engines. These regulations, aimed at increasing fluid efficiency and reducing emissions, were adopted in four stages or tiers. At each stage, John Deere surpassed the standards, often months or years before the required deadlines.



While March 14, 2018, is cause to celebrate 100 years of John Deere tractors, it also marks a proud milestone for John Deere engines.

JOHN DEERE POWER SYSTEMS TIMELINE

Diesel engine production begins at John Deere Dubuque Works (production relocated in 2002)

1959

Diesel engine production begins in Rosario, Argentina

1965

Diesel engine production begins at Saran, France

Diesel engine production begins at Getafe, Spain (production relocated in 1988)

1969

1973

Company produces its 1,000,000th engine

Production begins at new John Deere Engine Works facility in Waterloo, Iowa

1976

1983

1,000,000th diesel engine produced in Waterloo, Iowa

1,000,000th diesel engine produced in Saran, France

1993

1997

1,000,000th diesel engine produced in Dubuque, Iowa

Diesel engine production begins in Pune, India

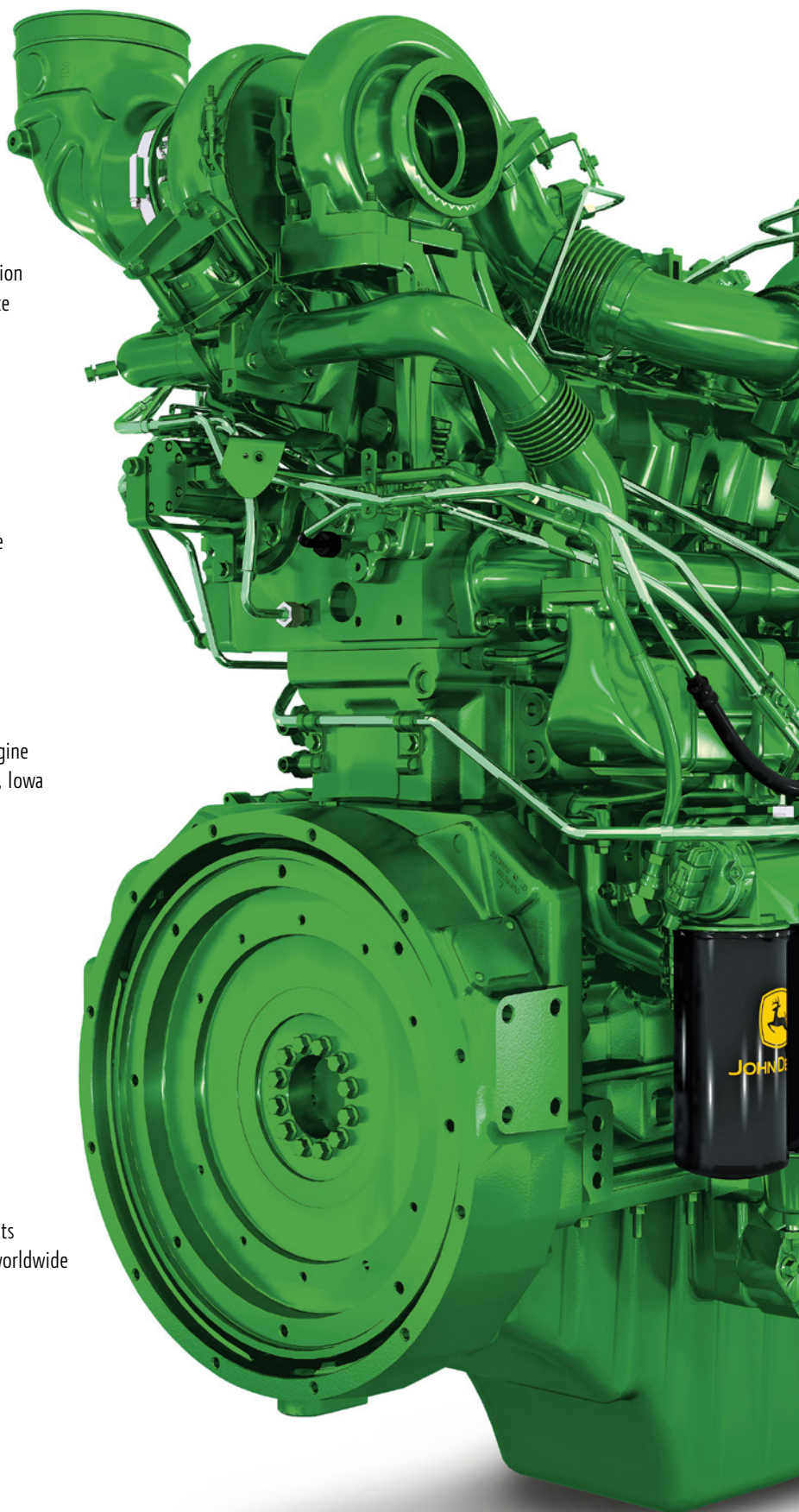
2000

2004

John Deere produces its 5,000,000th engine worldwide

John Deere Engine Works in Waterloo produces its 2,000,000th engine

2016





FROM THE ARCHIVES

Rear cover of a 1916 advertising brochure
for the Waterloo Boy One-Man Tractor.