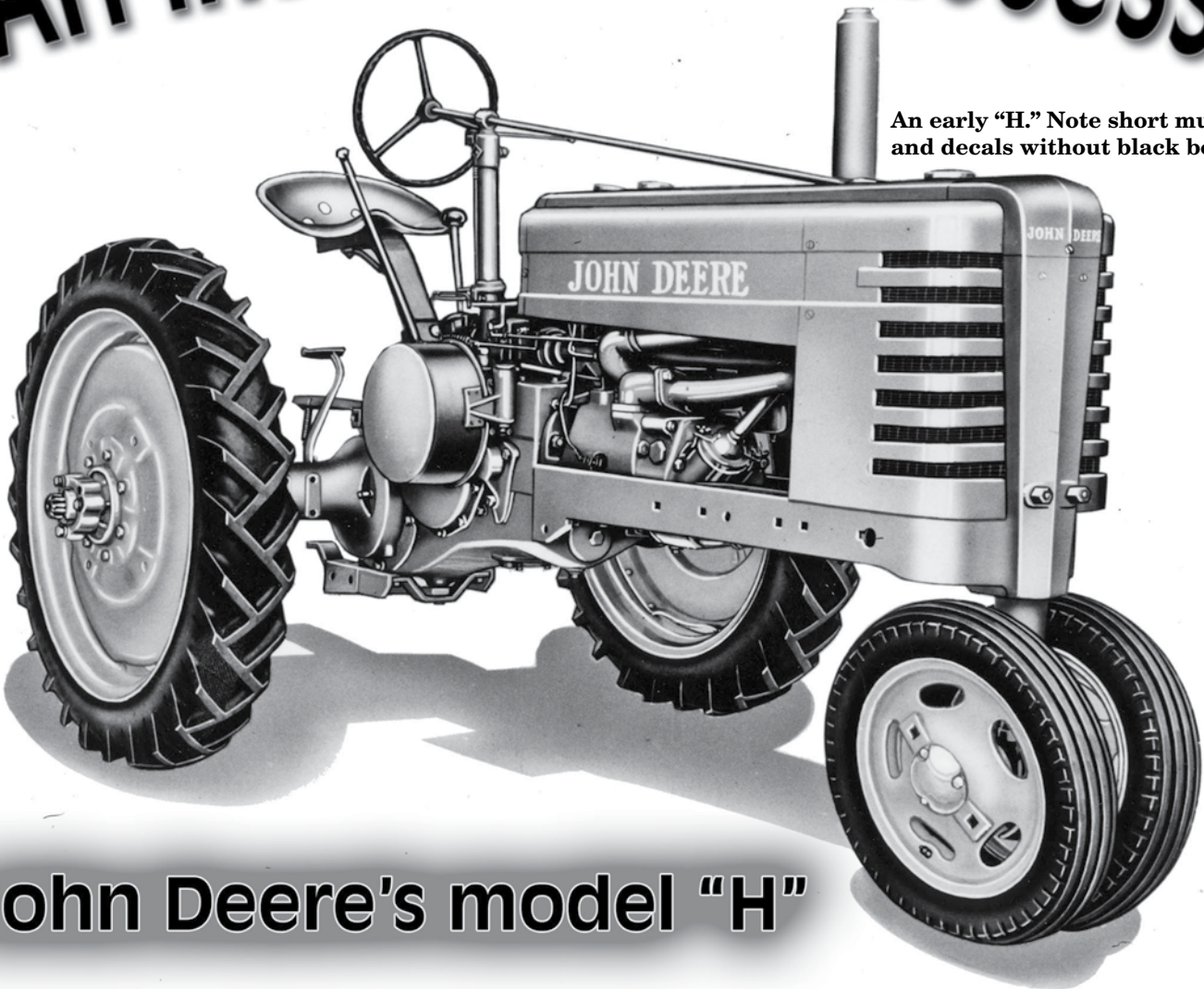


## FEATURED MODEL

Benjamin Hain

# An immediate success

An early "H." Note short muffler and decals without black border.



## John Deere's model "H"

In the mid 1930s, Deere and Company was a very major force in the agricultural tractor industry. With the "B," "A," "G" and "D" tractors, Deere had a strong showing in most of the major markets in the United States. To further extend its reach, Deere also made an effort to appeal to grove and orchard farmers, vegetable growers and other farmers who needed tractors with special features.

Despite the fact that use of the tractor was spreading throughout the continent, many North American farmers still employed draft animals as the motive power on their farm. To these farmers, many of whom farmed 80 acres or less, even the one plow model "B" was too large or too expensive to make economic sense. Even the facts that tractors required minimal upkeep when compared to a team of horses and that land used to feed the horses (up to 25 percent of a farm) could be grown as more cash crops were not enough to convert farmers from horse to tractor. The dealers who had been trying to get farmers to make this conversion came back to Deere, telling them that what was needed was a new, smaller tractor. If Deere could produce a ma-

chine capable of doing the work of two horses, as well as any other farm jobs in its power range, and bring it to the public at \$500, the small farm market would be theirs.

From this concept was born the model "L" tractor. The "L" was capable of nearly everything that Deere had hoped for; however, the tractor just wasn't for everyone. While vegetable and tobacco growers found it to be a very useful tractor, other farmers stayed away from it because it lacked a built-in PTO.

The model "L" tractor was built in Moline, Illinois. Previous to this, all Deere production tractors had been built in Waterloo, Iowa. Some of those in Waterloo were unhappy with the fact that a tractor was being built outside

of their factory and with no influence from the men who had created the great line-up of Deere tractors. When changes were made to the model "B" for the 1939 model year that would move the tractor up into the two plow class, Waterloo felt that a new one plow general purpose tractor would fit perfectly in the gap left by the "B" and would appeal to those farmers who still wanted a tractor but, for one reason or another, did not like the "L." Waterloo got the OK and work to engineer this tractor began in late 1937.

Deere's engineers had a difficult job ahead of them. They wanted the new tractor to be similar to the rest of the Waterloo line in as many ways as possible, but the cost of the tractor had to be kept low in order to appeal to the particularly tight budgets of the target audience. The tractor had to carry a horizontal two cylinder engine, as it was what Deere knew best and it was what Deere's customers expected. To maximize fuel economy, though, the engine would need to have a small displacement and run faster. To keep costs down, a three speed transmission would be used. The increased engine speed meant that the clutch and belt pulley would best be driven from the camshaft, an added benefit of which was that fewer gear reductions were required. It was also decided early on that rubber tires would be the only option, as steel simply would not be able to provide the traction needed to create enough drawbar pull on such a small tractor.

The first experimental tractors made to these specifications were given the label "OX" and were unstyled. Looking a little odd, the "OX" tractors had a steering pedestal and steering support post that were slanted backwards, toward the operator, and the rear wheels were cast iron and had a five-pointed star-shaped pattern. By the summer of 1938, the "OX" tractors were styled to match the "A" and "B" tractors, which had also received a styling treatment for their new model release that fall. The "OX" tractors were put through their paces in the fields in the summer and fall of 1938. During this

# Specifications

( Subject to change without notice. )

**CAPACITY** ..... Pulls one 16-inch plow or one 14-inch bedder under normal conditions and a two-bottom 12-inch plow or a two-bottom 12-inch bedder under favorable conditions. Handles a two-row cultivator.

**SPEED:**

**First** ..... 2-1/2 M.P.H.  
**Second** ..... 3-1/2 M.P.H.  
**Third** ..... 5-3/4 M.P.H.  
**Reverse** ..... 1-3/4 M.P.H.  
 (Road speeds up to 7-1/2 M.P.H. at 1800 R.P.M.)

**\*BELT PULLEY:**

**Diameter** ..... 12-1/4 inches.  
**Face** ..... 4-1/2 inches.  
**Revolutions per Minute** ..... 700.  
**Speed** ..... 2245 F.P.M.

**ENGINE, TWO CYLINDERS, CAST-IN-BLOCK — VALVES IN HEAD:**

**Speed** ..... 1400 R.P.M.  
**Bore** ..... 3-9/16 inches.  
**Stroke** ..... 5 inches.  
**Crankshaft** ..... Special-quality alloy steel, with 2-1/16-inch crank pins.  
**Bearings** ..... Two main, steel-backed, precision type. R.H., 2-1/16 inches diameter by 2 inches long. L.H., 2-1/16 inches diameter by 2-1/4 inches long.  
**Connecting Rods** ..... Special-quality steel, drop-forged. Bearings—steel-backed, precision type. 2-1/16 inches diameter by 1-17/32 inches long.  
**Governor** ..... John Deere design. Enclosed fly-ball type with 1 ball thrust and 2 self-adjusting ball bearings.  
**Carburetor** ..... Natural-draft type with load and idle adjustment.  
**Ignition** ..... High-tension magneto with enclosed automatic impulse starter.

**Air Cleaner** ..... Oil-wash type.  
**Lubrication** ..... Full pressure to main and crank-pin bearings; oil filter.  
**Cooling** ..... Thermo-siphon with gear- and shaft-driven fan. (No belts or water pump.)

**FUEL TANK CAPACITY** ..... 7-1/2 gal.

**GASOLINE TANK CAPACITY** ..... 7/8 gal.

**WATER CAPACITY** ..... 5-1/2 gal.

**CLUTCH** ..... Two 9-1/4-inch dry disks, locking in and out.

**TRANSMISSION** ..... Selective type. Spur gears forged, cut, and heat-treated. Shafts operating on 2 tapered roller and 2 roller bearings.

**REAR AXLES** ..... 2-1/8 inches in diameter. Mounted on 4 tapered roller bearings.

**REAR WHEEL SIZE** ..... 6.50 x 32. Pneumatic, with 7.50 x 32 tires available.

**FRONT WHEEL SIZE** ..... 4.00 x 15. Pneumatic, mounted on 2 tapered roller bearings.

**REAR WHEEL TREAD** ..... 44 to 80 inches.

**WHEEL BASE** ..... 76 inches.

**TURNING RADIUS** ..... 7 feet, 5 inches.

**DRAWBAR RANGE:**  
**Vertical Adjustment** ..... 10 and 15 inches.

**Horizontal Adjustment** ..... 16-3/4 inches.

**\*\*POWER TAKE-OFF SPEED** ..... 546 R.P.M.

**DIMENSIONS:**  
**Over-All Width** ..... 75 inches.  
**Over-All Length** ..... 111-1/4 inches.  
**Height to Radiator Cap** ..... 52 inches.

**SHIPPING WEIGHT** ..... 2100 pounds.

\* Belt Pulley Standard Equipment  
 \*\* Power Take-Off extra

time, some of the tractors still used the star-shaped cast iron wheels, while others used pressed steel bolt-on wheels. While there was an air intake stack on the unstyled prototypes, the styled version did not have these. Instead, air was brought in through a vent on the left side of the tractor. This was done either to improve the streamlined look of the tractor and the operator's visibility, to remove a couple of extraneous parts and lower the cost of the tractor or for both reasons. At least one styled prototype used an intake stack inline with the exhaust, possibly to test whether the stack was more efficient or brought in significantly cleaner air than the hood vent could. Apparently the difference was minimal.

Overall, work creating the tractor went quickly, due in no small part to its similarity to its larger Waterloo brethren. In the fall of 1938, Deere executives gave the OK to begin production of the tractor and gave it the official designation of model "H." The first serial number, number H-1000, was given to a tractor on October 29th of 1938, which was then shipped to the University of Nebraska test lab. This tractor was probably an "OX" prototype, as production of the model "H" did not truly begin until January of 1939. Deere most likely wanted to make certain that it had full test results for the "H" so that, when it came time to market the machine, it could be compared to the competition. This was a wise move, as the model "H" proved to be the world's most efficient spark ignition tractor, even when it was running distillate fuel. It is certain that it wasn't too difficult to come up with an advertising tag line based on that fact.

The new model "H" featured an engine with a bore of 3-9/16<sup>th</sup> inches and a stroke of five inches, resulting in a total displacement of 100 cubic inches. At 1400 RPM, the little engine could create as much as 14.84 horsepower at the belt or 12.48 at the drawbar. The little 3,035 pound tractor showed a maximum pull of 1,839 pounds, just over 800 pounds less than the model "B," which had a 1,200 pound weight advantage. The test results showed

Model "H" production totals						
Year	Beginning/Ending	H	HN	HNH	HWH	Total
1939	1000-9999	7,320	0	0	0	<b>7,320</b>
1940	10000-20614	11,824	200	0	0	<b>12,024</b>
1941	20615-35698	14,013	317	0	97	<b>14,427</b>
1942	35699-44753	8,775	228	37	36	<b>9,050</b>
1943	44754-45641	883	2	0	0	<b>885</b>
1944	45642-47795	2,111	36	0	0	<b>2,147</b>
1945	47796-53326	5,172	126	0	0	<b>5,298</b>
1946	53327-58613	5,032	149	0	0	<b>5,181</b>
1947	58614-61116	2,233	19	0	0	<b>2,252</b>
<b>Totals</b>		<b>57,450</b>	<b>978</b>	<b>37</b>	<b>126</b>	<b>58,591</b>

The totals at the bottom of the chart are from actual hand counts. The year by year numbers are from production logs. There are some slight discrepancies, but we believe the hand counts to be correct.

that, while Deere may have taken some steps to keep the costs of the little "H" down, they certainly did not do anything to diminish its capabilities.

The engine on the "H" was equipped with a Marvel-Schebler DLTX-26 carburetor and a Wico type C magneto. The three speed transmission that brought the power to the wheels had operating speeds of 2-1/2, 3-1/2 and 5-3/4 miles per hour and 1-3/4 miles per hour in reverse. The tractor could be sent hurtling down the road at speeds as fast as 7-1/2 miles per hour through the use of the foot throttle, which pushed the engine up to 1,800 RPM. The first tractors were furnished with 6.50-32 inch tires, but 7.50-32 inch tires were available as an option. In March of 1939, however, Deere made the larger tires standard equipment without changing the price of the tractor. For only an additional \$18, the "H" could be equipped with a PTO. Other options for the model "H" included fenders, a radiator shutter and front and rear wheel weights. At \$595, the purchase price of the base tractor was a bit steeper than that of the competition, but the features built into the "H," the fact that it was capable of two row work in nearly any soil and the high efficiency of its engine, made the price of the "H" look more affordable very quickly.

When the model "H" tractors first started rolling off the assembly line, a cast iron alloy crankshaft was used. After just 104 tractors were built, Deere decided that the crankshaft was not strong enough. To replace it, a forged steel shaft was engineered. Most of the first tractors were rebuilt and given new serial numbers, but a few escaped with their original equipment. Production resumed in mid-January at serial number H-1104 with the new crankshaft.

The "H" was an immediate sales success for Deere and the tractor even outsold the model "A" from 1939 through 1941. There is no doubt that many Deere salesmen kept the names of farmers who seemed quite interested in the model "B" but decided that it was just too big for them. After a demonstration of the model "H," you can bet that these salesmen were able to convince many of these farmers that now was the time to make the move from horses to tractors. At the same time, the "H" was the ideal tractor for many larger farms that needed another tractor that could do some of the smaller farm jobs more efficiently than could their larger workhorse. Using a model "A" to rake hay certainly works, but using an "H" to do it can save a lot of money. It also freed up the "A" so that Mr. Farmer could take care of cultivating the corn while Junior tended to the hay.



**What an unstyled "HNH" would have looked like. This tractor's builder, "H" expert Patrick Browning, passed away in October of this year.**

While a number of changes were made to the "H" during production, only a few are major enough to warrant listing here. The first of these was during the tractor's first production year, at serial number H-8471. The muffler initially used on the "H" was quite short and some complained that the face full of exhaust they got when using their tractor was masking their natural manly scent. To combat this, Deere increased the height of the stack by 8-1/2 inches. Wives could once again kiss their husbands without the fear of smelling like distillate afterwards.

The features and adaptability that made the model "H" such a hit also brought it a lot of attention from vegetable growers. The economy with which the "H" could do the work that they needed was quite appealing to them. The farmers just wanted one little change: a single front wheel. Deere was more than happy to oblige; after all, the company had been making a narrow front end for the "B" since 1934, so it was not going to take much engineering prowess to adapt it for use on the "H." In April of 1940, the "HN" tractor was released. These tractors had a single 6.00-12 front wheel but were otherwise identical to the model "H" and they

were exactly what the vegetable growers were looking for.

The popularity of the model "H" brought Deere's engineers to come up with a system that would make the tractor even more versatile. In response to the three-point system on the Ford 9N, Deere created a hydraulic power lift system for the "H." Previously, Deere tractors had used a PTO driven system to power the hydraulics; the new system for the "H" was run from the engine governor shaft, allowing "live" hydraulic power to be controlled by the operator. With this system, one or two hydraulic cylinders could be utilized to control an implement. This system was available as an option on new tractors starting with the 1941 model year and a kit to add the system to earlier tractors was also available.

Also in 1941, starting at serial number H-27000, a farmer who was looking for the ultimate in convenience could order an electric starter and never have to go into the arduous task of manually spinning the flywheel on an "H" again. Truly, the "H" is one of the easiest tractors to start by hand but an electric starter made the job even easier. Electric lights were also added as an option at this time and a tractor

ordered with electric start got the lights as part of the package. Of course, a farmer could order the lights without the starter.

Finally, in March of 1941, Deere released two more models to the "H" line-up. The "HWH" and "HNH" were a pair of tractors aimed directly at vegetable growers in California. Some of these growers used raised beds for their crops, so having a tractor that could clear the crops in these raised beds was paramount to their success. The "HWH" had an adjustable wide front axle with a 40 to 52 inch tread range or, for a bit more, an axle that could cover 52 to 68 inches. A new hub was installed at the rear of the tractor, allowing the "HWH" to use 38 inch rear wheels. With this, the new tractor could clear six more inches.

The "HNH" used the same rear wheel equipment as the "HWH." In the front, the tractor used the 6.00-12 inch front wheel used on the "HN." This discrepancy created a tractor with a nose-down attitude, but one that could still clear an extra six inches. Production of these tractors was abandoned during World War II and Deere never brought them back when the war was over. The result of this was that the tractors were only built for one year, from 1941 to 1942, and only 126 "HWH" and 37 "HNH" tractors were built, providing a pair of tractors for the collector of rare John Deeres to salivate.

World War II forced Deere to put the kibosh on more than just the extra tall versions of the "H." Due to shortages of steel and rubber, production of the "H" was halted from May of 1942 until April of 1943 and again from October of 1943 until October of 1944. After the war, the popularity of the "H" declined. While farmers still wanted to remain as economical as possible, the advances in refining technology that were made during the war brought the price of gasoline down much closer to that of distillate, allowing farmers to get more power out of their machines without spending much more on fuel. Also, farmers had grown more prosperous and farms had gotten bigger since the prewar years,

# MODEL "H"

## INTEGRAL EQUIPMENT

ONE-WAY FLOW.

TWO-WAY FLOW.

ONE- OR TWO-ROW BEDDER OR  
MIDDLEBREAKER.

TWO-ROW BEDDER-PLANTER OR  
LISTER.

TWO-ROW COTTON, CORN, AND PEANUT  
PLANTER. (Available with or without  
fertilizer or pea attachment.)

TWO-ROW COMBINATION UNIT. (For  
bedding or furrowing, planting, and fertilizing  
in one operation.)

TWO-ROW SWEEP-TYPE COTTON,  
CORN, AND PEANUT PLANTER.

ONE-ROW CULTIVATOR.

TWO-ROW CULTIVATOR.

ATTACHMENTS FOR TWO-ROW CULTIVATORS:

TWO-ROW RUNNER-SHOE, OR  
SWEEP-TYPE PLANTING ATTACHMENT.

TWO-ROW FERTILIZER ATTACHMENT  
for planting attachments. (For  
fertilizing alone or when planting.)

VARIABLE-ROW TOOL-BAR ATTACHMENT. (For cultivating beets,  
beans, and other vegetables.)

TWO- OR FOUR-ROW BEAN HARVESTER  
ATTACHMENT.

TWO-ROW PEANUT DIGGER ATTACHMENT.

VARIABLE-ROW CULTIVATORS. (For  
beets, beans, and other vegetables.)

TWO-ROW DISK AND BLADE-TYPE  
POTATO HOES.

TWO- OR FOUR-ROW BEAN HARVESTER  
ATTACHMENT. (For variable-row  
cultivators.)

TWO-ROW PEANUT DIGGER.

ONE-ROW BEET LIFTER.

SWEEP RAKE.



For all jobs on the smaller farm . . .  
To replace the last team on the large farm

**A** PRACTICAL, low-priced, tricycle-type general purpose tractor, the Model "H" will handle, at rock-bottom cost, every power job on the small farm and the lighter jobs on the large farm. It will do as much in a day as you can do with four to six horses or mules. The Model "H" pulls one 16-inch plow or one 14-inch bedder under normal conditions, and a two-bottom 12-inch plow or a two-bottom 12-inch bedder under favorable conditions. Belt pulley is standard equipment. Power take-off and hand-operated hydraulic power lift are available as extras.

In a 10-hour day the Model "H" will plow up to 7 acres . . . single-disk 25 to 30 acres with an 8-foot disk . . . double-disk 17 to 20 acres with a 5-foot disk . . . plant 20 to 30 acres . . . list 20 to 25 acres . . . cultivate 20 to 35 acres . . . mow 25 to 35 acres with a power mower . . . cut 20 to 25 acres of grain with an 8-foot grain binder.

Note: While the Model "H" is similar to the Models "A", "B", and "G" Tractors shown in this book, its special features and complete line of working equipment are fully described in a special folder. Ask your John Deere dealer for a copy.

making the "B" a more logical choice for the (now larger) small farm.

In February of 1947, Deere ended production of the model "H." The rising popularity of the model "B" meant that Waterloo needed more room to build the tractor and the "H" was taking up vital factory space. Also, the new model "M," which had been developed throughout the war years, was nearly ready for production in the new Dubuque, Iowa factory and it would take the place of the "H." The "H" had been a success for Deere, working with the "L" to keep the company in the small

tractor business. While it had not sold as well as the Ford 9N and 2N or the Allis "B," Deere could not have asked for more from it.

It is extremely unlikely that any model "H" tractor ever left the factory painted in any way other than Deere's standard color scheme of green and yellow. The first tractors had "John Deere" silk screened on the sides of the tractor in yellow. Starting in 1941, the tractors wore decals and a stylish black border was added to the letters.

The model "H" is the tractor for someone who wants to restore a

Waterloo Deere but is restricted by the size of his shop, truck, trailer or tools. An "H" will fit in a one car garage and still leave enough room to work on it. No one ton dually truck is required to move the thing and there are not very many parts that can't be manhandled by an able bodied individual.

Add to that the fact that the tractor is quite simple and relatively plentiful and the "H" seems like it is just begging to be restored by a novice. Whatever your skill level or the size of your shop, though, the "H" is a tractor that is easy to enjoy.