

The Love Hydraulic Lift-Hitch

Jabez A. Love was an engineer, an entrepreneur, and a visionary. History has shown that he was also commonly overlooked and a somewhat little known contributor to an even lessor known piece of farming history – the Empire Tractor. No account of the Empire Tractor story is complete without acknowledging Jabez Love.

Jabez (“J.B.” as he was known) saw a need for a tractor that would serve a dual purpose for the farmer, a tractor that could replace the truck. By driving from the fields and orchards and directly onto the roads to town, loads of fruit could quickly be delivered to market in nearby Benton Harbor Michigan. His vision was to produce a tractor capable of road speeds of 40 miles per hour in order to save the farmer time, work, and money. He called his creation the “Tructor”. He produced it from 1933 to 1936, assembled from components that included a “B” model Ford engine, transmission, and Ford truck rear axle. In 1939 he moved his company, Love Tractor, Inc., to Eau Claire Michigan and continued to produce several “Love” branded row crop and orchard style tractors, as well as a line of implements under the Love Lift Tools division, through the 1950’s.¹

In 1939, J.B. also became a Ford dealer, selling Ford 9N tractors and the Ferguson line of farm implements. During WWII, J.B. joined Willys-Overland Motors Inc. as an engineer and worked with the design teams engineering and testing the prototype postwar civilian Jeep.² This temporary endeavor, combined with his earlier experience with the Ferguson System of *Three-Point Free-Link Implement attachment*³, was the start of what would ultimately lead to his connection to the Empire Tractor.

On August 2, 1946 J.B. applied for a patent on an Implement Hitch system of his own design for which which he would ultimately be granted a patent on July 12, 1948.⁴ This was a hydraulically operated three-point free-link system designed specifically for the new post-war Universal Jeep. It was similar in concept to the Ferguson System and allowed the new civilian Jeep to function as a tractor with three-point attached implements in tow. Willys-Overland Motors later acknowledged J.B. as the originator and inventor of the “Lift Hitch for Willys Jeeps.”⁵

The Implement Hitch system that J.B. had only recently designed for the Jeep was quickly marketed by The Newgren Company of Toledo, Ohio. Newgren was a company, newly formed in August of 1946, which arose to supply farm implements for which Willys-Overland now found that it had a need.⁶ Newgren engineers soon changed the design of J.B.’s system slightly and marketed it under their own name; “Hydraulic Linkage System for the Jeep.”⁷ As an independent company, Newgren would be short lived.

¹ Lift Tools, *Implement and Price Catalog*, August 24, 1956

² Toledo Blade, *New Lifting Device Made for Farmer*, August 21, 1946

³ Tractors And Their Power Units, *Appendix I, ASAE Standard* (terminology), Copyright 1962, page 490

⁴ United States Patent Office, *Implement Hitch*, Patent 2,445,145, July 13, 1948

⁵ *Implement & Tractor, Love Tractor, Inc.*, March 4, 1950, page 99

⁶ Toledo Blade *op. cit.*, August 21, 1946

⁷ The Newgren Co., *Form No. 121*, Revision May 16, 1947

On December 27, 1947, The Newgren Company was bought out by the Monroe Auto Equipment Company of Monroe, Michigan.⁸ Shortly, under Monroe management, the Newgren system was discontinued and replaced with a new hydraulic three-point system of Monroe's design that would be granted a patent of its own a few years later.⁹ This change of events opened the door for J.B. Love.

J.B. quickly got to back work, significantly reengineered his original design in nearly every aspect, and was soon in the business of supplying hydraulic three-point systems to Jeep customers. He named his revised creation the "Love Hydraulic Lift-Hitch for Willys Jeep." These new systems were in the hands of distributors and available for Jeep owners as early as October 11, 1948.¹⁰ Dealers of Jeep vehicles as well as Ford Tractor and/or Ferguson Tractor dealerships could place orders for the new Love Lift-Hitch directly from the distributor.¹¹ J.B. never patented his new design. This fact, along with images in the new sales folder showing both old and new versions, suggests to this author that J.B. never sold his patent to Newgren, that he retained ownership, and that Newgren had only a licensing agreement with him.

J.B.'s Implement Hitch (and subsequent Love Hydraulic Lift-Hitch) that he developed for the Jeep, was not the first system of its type that he had designed or patented. He had earlier applied for a patent on a design that was ultimately granted in 1949.¹² This version was not aimed at any particular make or model of tractor and was rather generic and much simpler than the Jeep version. J.B. produced hydraulic Three-Point Hitch Conversion Kits for various tractors from other manufactures that were not normally factory fitted with a hydraulic three-point system. These included: Allis-Chalmers, International, and John Deere.¹³ Most of the Love Tractor models that J.B. produced were available with some version of a hydraulic three-point hitch system. These differed vastly from one another and appear to have been specific to the particular model of Love Tractor that they were designed for.

Of particular interest to Empire Collectors is the introduction of a new model of tractor from Love in 1950 – the Love model J51.¹⁴ This tractor was a modified Empire 90, fitted with front sheet metal borrowed from existing Love designed tractors, and equipped with an optional rear Hydraulic Power Unit.

⁸ Cathy Cunningham, American Austin Bantam Club, personal correspondence

⁹ United States Patent Office, *Control Valve for Fluid Operated Lifts*, Patent 2,667,745, February 2, 1954

¹⁰ Erwin Equipment, Inc., *Inquiry response letter*, October 11, 1948

¹¹ *ibid*

¹² United States Patent Office, *Implement Hitch For Tractors*, Patent 2,477,994, August 2, 1949

¹³ Lift Tools Inc., *op. cit.*, August 24, 1956, page 21 & 33

¹⁴ 1950-51 Red Tractor Book, *Farm Tractor Specifications*, Copyright 1950, page 100

A sample of some of the specifications on the J51 tractor read:¹⁵

- Plow Rating - 2-14
- Shipping Weight – 2650 lbs.
- Engine/Model – Willys/CJ2A
- Belt Pulley Dia. – 9-inches
- Hydraulic Power Unit (three-point hitch system) Optional.

Key specifications for the Hydraulic Power Unit were listed as follows:¹⁶

- Lifting Rate – Selective
- Rated Working Pressure - 2000 psi
- Make of Pump Unit - Pesco
- Make of Valve – Love
- Make of Cyinder – Love
- Cylinder Type – Single Acting
- Bore x Stroke – 3-inches x 5-inches
- ASAE Standards – Nonconforming

To date, this author has yet to discover any documentation specifically covering the Love three-point hitch systems found on some of our beloved Empire Tractors. But, as we know, they have been proven to exist. They loosely resemble the later “Love Hydraulic Lift-Hitch for Willys Jeep” systems, with some surprising differences.

The “Love Hydraulic Lift-Hitch for Willys Jeep” design included a passenger side manual *Leveling Adjustment*¹⁷. This was a common feature found on most three-point hitch systems of the time period and was designed to provide side-to-side tilt adjustment of an implement. This feature was particularly useful when adjusting a moldboard plow in readiness for the first pass through a field when the benefit of an existing furrow did not exist. This adjusting feature, surprisingly, was not included on the Empire Tractor version. Because of the lack of the adjusting mechanism, Love was able to beef up the Empire version somewhat in the construction of the short lever arms.

The lever arms found on the Jeep version were composed of weldments created with two parallel bars of steel flat stock oriented vertically on edge and positioned a couple inches apart from each other. The Empire version replaced these assemblies with new weldments consisting of a much larger flat stock laid flat and gusseted underneath for strength, all in place of the parallel bars. The rockshaft pivots were much different between the two versions, as well as the method of attaching the whole unit to the vehicle, and the drawbar. The Jeep drawbar was located under the rockshaft. The Empire drawbar was positioned above the rockshaft.

¹⁵ ibid

¹⁶ Ibid, page265

¹⁷ Tractors And Their Power Units, *op. cit.*, page 491

The *Upper Link Point*¹⁸ on the Jeep version of the Love Lift-Hitch was located much lower in relationship to the *Lower Link Points*¹⁹ than that found on the Empire version due to cargo area and tailgate accessibility concerns on the Jeep. This change to the Empire version resulting in its geometry being much more closely matched to that of the soon-to-be established Category I standards than the geometry found on the Jeep version. Some implements, as designed for use with the Jeep version, required specialized corresponding adjustments in the locations of their *Upper and Lower Hitch Points*²⁰ in order to retain correct geometry, thus resulting in modified mast heights.

To quote from the ASAE Standard, Appendix I:

*“The mast height is not necessarily a mechanical dimension on the implement itself. It is a figure used in design and if properly used for design of both implement and tractor, a well-performing interchangeable implement and tractor combination will be achieved. This standard makes it possible to produce tractors and implements that will give good performance in any combination; therefore, consideration to hitch geometry is essential. This makes it desirable to establish a standard mast height and a standard mast pitch adjustment within a working range, because these items influence the position of hitch points that are common to both the implement and tractor.”*²¹

It is the author’s goal that this article will stimulate discussion and hopefully lead to discoveries of more obscure documentation that will ultimately help fill in the blanks of the *Empire-Love Hydraulic Lift-Hitch* story.

^{18, 19} *ibid*

²¹ *Ibid, Implement Mast Height, page 494*

Author's Notes:

I have attended the Old Thresher's Reunion in Mt. Pleasant, Iowa, each Labor Day weekend for about 55 years straight. I was very excited to see the Empire Expo at this year's show, happy to be a small part of it, and humbled to be accepted even though I do not own an Empire Tractor...yet . I was surprised to view so many Empires at the show that were equipped with the Love Lift-Hitch, and welcomed the opportunity to examine them in person. I had seen a specimen or two of the Jeep version over the years but had, up until this show, only seen the Empire version in photos. I fully expected each unit to be slightly different from the next. I was pleasantly surprised that they were virtually all the same, thus reinforcing my suspicions that they were not hastily tacked onto the tractors, but well-engineered assemblies that exhibit repeatability in manufacture, all pointing to being produced by utilizing specialized jigs and tooling.

I was very surprised to find just how much the Empire versions differ from the Jeep versions. Some of these differences had been apparent from photos, but seeing them in person brought a lot more details to light. I hope someday to compare the two side by side and expect to find even more differences than similarities.

Now is when I draw from vintage documentation, add some information gleaned from first-hand examinations, and arrive at some personal conclusions to hopefully fill in some of the gaps in "the story".

I had read long ago that J.B. Love acquired several Empires at auction after the demise of Empire Tractor. I have, to date, found no documentation to support this. However, the Love model J51 appears to be stock Empire other than the ill-fitting Love sheet metal. In the image appearing in the 1950-51 Red Tractor Book, this sheet metal appears very cumbersome and out of place. I believe the photo was staged in order to give the tractor the familiar Love appearance so as to better establish a brand familiarity in the minds of potential customers. I doubt that any were ever sold with the Love sheet metal.

J.B. Love was very much attuned to tractors at the time requiring three-point hitches in order to compete in the market. I expect that he would have mounted a Love Lift-Hitch on nearly every Empire he had in his inventory before labeling it a Love J51 in order to boost sales. The image in the Red Tractor Book was taken at the wrong angle to view the rear of the tractor, but it is clear that there is an implement attached and raised for transport. This brings me to a question. Is it possible that every Empire we find today with a "factory appearance" Love Lift-Hitch attached to the back was a tractor that J.B. sold, in effect, then no longer an "Empire" but actually a "Love J51"?

I welcome all comments and ideas. If anyone can provide vintage documentation to support or debunk my conclusions, please contact me at dpced@t137.com, or contact the club directly.

If any readers are Jeep enthusiasts and would like to learn more about the various three-point lift systems that were available for the Universal Jeep, please see a published 5-part series of articles that I had a small hand in. These appeared in the Fall of 2017 through the Fall of 218 issues of "The Dispatcher" magazine. Back issues can be order on-line at: <https://www.dispatchermagazine.com/>

Thanks. Clint Dixon