

## ***Tires and Wheels, From Steel to Rubber***

*Rubber tires for tractors did not exist in the 1920s. IH introduced its first McCormick Deering and Farmall models with steel wheels, front and back.*

*Firestone introduced the first successful pneumatic rubber tires in 1932.*

*Those new tires were first used on Allis-Chalmers tractors.*

*Pneumatic rubber tires are a substantial improvement over steel wheels in numerous ways.*

*They improved tractive force and fuel economy up to 20%.*

*Steel wheels were very hard on roads and sod surfaces. They were so destructive that they were prohibited from paved or hard-packed public roads.*

*Rubber tires eliminated the surface damage issues and provided a much less jarring ride for the farmer and the machine itself.*

*The new tires caught on quickly and within five years, by the late 1930s, half of all tractors sold came with pneumatic tires.*

*With rubber tires and "Road Gear", farmers could haul wagons of grain to town elevators.*

*That switch from steel to rubber was slowed somewhat by the shortage of rubber during World War II.*

*The word tire is derived from "attire", as in dressed. In the 1800s a tire was any sort of material wrapped on the exterior of a wheel. That was done normally to increase wheel life or soften a ride.*

*Pneumatic is based on a Greek word and it means air in this context.*

*Rubber is actually not rubber, but it was rubber in 1932.*

*Originally, rubber is a natural substance that comes primarily from rubber trees. Those trees grow in abundance in Southeast Asia. Natural rubber has great elastomeric characteristics. It is terrific rubber. But natural rubber is expensive and its production is limited.*

*Scientists began developing usable synthetic rubbers in the early 1900s. Usable, but not great, and not cheap. Work continued and there was a huge need for rubber during WW II. Good synthetic rubbers of various formulations were developed. All synthetic rubbers are made from petroleum.*

*By 1950, synthetic rubbers replaced natural rubber in all but the highest value applications.*

*I can personally attest to the superior quality of natural rubber, at least it was superior to the synthetic rubbers of the 1950s.*

*I was a boy then. We made slingshots. The quality and capability of a boy's slingshot was a matter of pride. It was a well known fact that natural rubber tubes, which were red, made the best slingshots.*

*Red inner tubes from old tires were a closely held trade good.*

*Any tractor produced before 1933 came with steel wheels.*

*Tractors produced between 1933 and 1940 may have been shipped with either steel or rubber.*

*Tractors produced between 1940 and 1945 probably came out on rubber.*

*If a tractor was sold with steel wheels, the fifth gear, Road Gear, was blocked out.*

*After 1945, all tractors were sold on rubber.*

*Several hundred thousand tractors that had been made with steel wheels were still running. The great majority of those tractors were converted to rubber.*

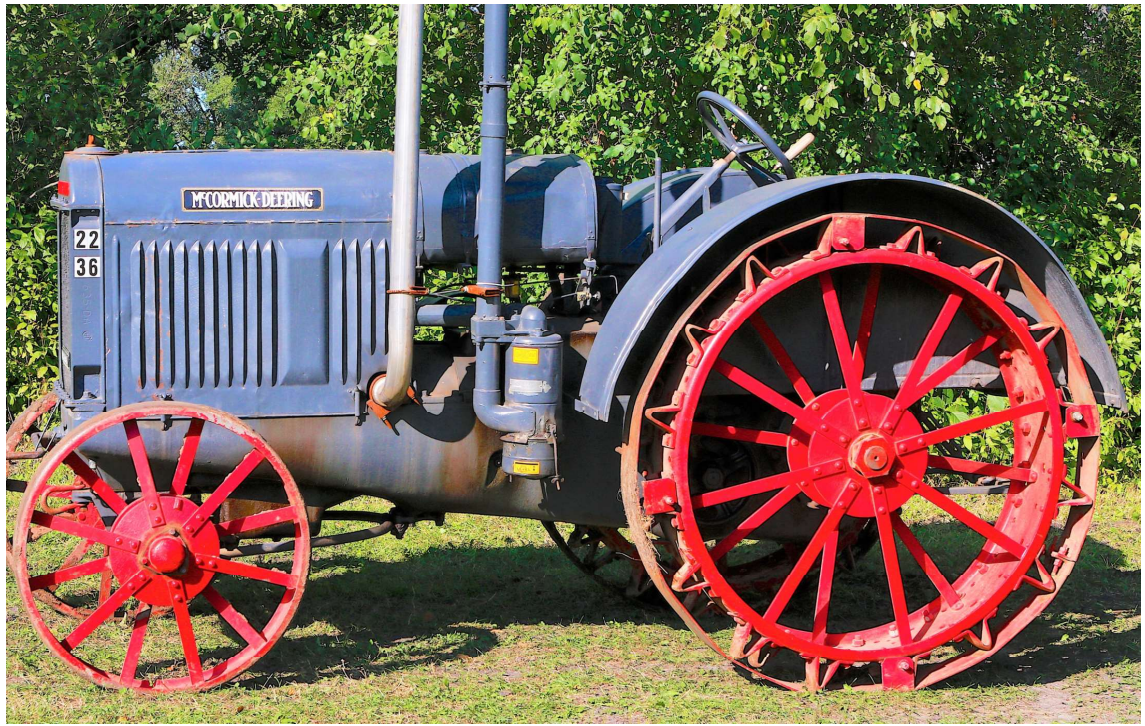
*This was done by cutting the steel wheel off such that the steel spokes which remained were exactly the right diameter for a new rim. That rim, of course was the correct size to take the desired rubber tire.*

*Both dealers and local blacksmiths made these conversions.*

*Dealers and after-market suppliers sold the tire/rim sets.*

*That was done for both rear and front wheels. The conversion is easy to spot on these old tractors.*





***ABOVE and BELOW. These two tractors were both manufactured in the late 1920. They were both built with steel wheels. Rubber tires were widely available by 1937. Sometime after 1937, and probably soon after, the tractor below was converted from steel wheels to rubber tires. That may have been done by the hometown International Harvester dealer or by a local blacksmith.***

***The tractor above has been modified on all four wheels for parade driving. A “highway” band has been added over the rear wheel lugs. The front wheels originally had an added ridge that dug into the soil to improve turning. Both the rear wheel lugs and the front wheel ridge damaged roads.***

