F 100 Brakes for Early Fords by Jim Clark

RESOURCES:

What:

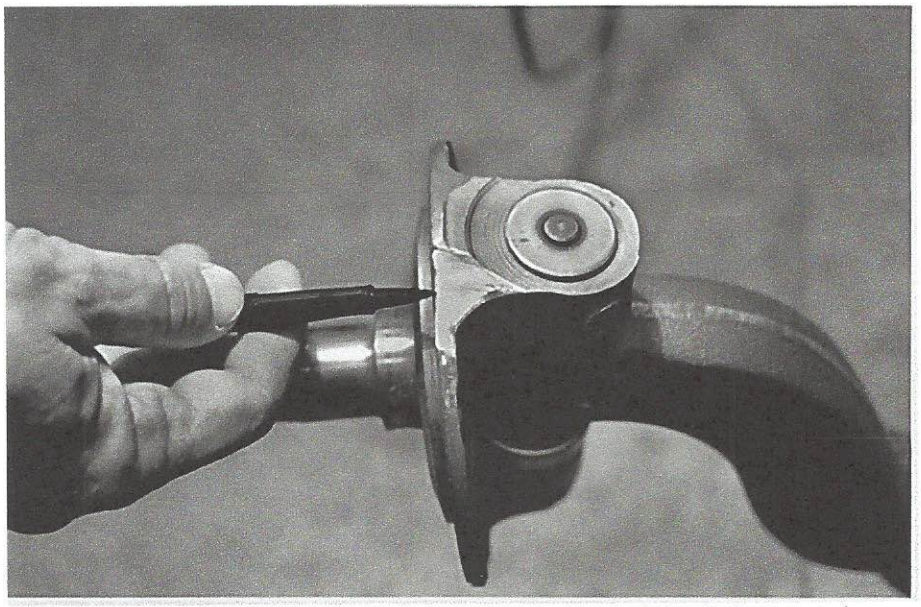
Early Fords prior to the 1940 models were equipped with mechanically actuated brakes. These were very inefficient even on these underpowered stockers that ran on 2-lane pre-interstate highways at turtle-like speeds. Early hot rodders were quick to adapt the hydraulic systems from the Fords of the forties to the earlier Fords by switching to the later spindles and brake assemblies up front. They were a great improvement but they were difficult to adjust and were not self-energizing. On the later style brakes a star wheel adjusts both shoes at the same time unlike the dual adjusting nuts on the early system. The self-energizing feature, unlike the early Ford brakes which use an attachment point at the bottom of each shoe, are hooked together at the bottom by a spring and adjuster and held to the backing plate by a pin, spring and retainer. This allows them free movement when the brakes are applied. As self-energizing brakes are applied the front shoe makes contact with the revolving drum and tries to rotate it. That movement is transferred through the adjuster to the rear shoe, pushing it into the drum with increased force. Even though the F-100 and early Ford hydraulics share basically the same size shoes the self-energizing feature improves their braking capacity dramatically. By using these early spindles and adapting Ford F-100 pickup brake assemblies and drums both of the problems can be solved.

In the rear the later rear end assemblies were usually substituted for the early rearends. Most hot rods have engine and drivetrain swaps that include the installation of a later rearend assembly. This usually includes the use of the later brake assemblies as well.

Converting to these later front hydraulic brakes on early Ford straight axles or reproductions axles can be a strictly bolt-on procedure requiring no machining or adapters by using nothing but Ford parts. A basic (rat) rod or light-weight early style hot rod will have more than adequate braking capabilities with these drum brakes. Expensive disc-brake conversions on one of these cars may supply more stopping power than desired. Discs only offer resistance to fade in extreme use such as racing and for the traditional look to be achieved the discs have to be concealed inside fake drum assemblies. So you may want to consider this simpler alternative.

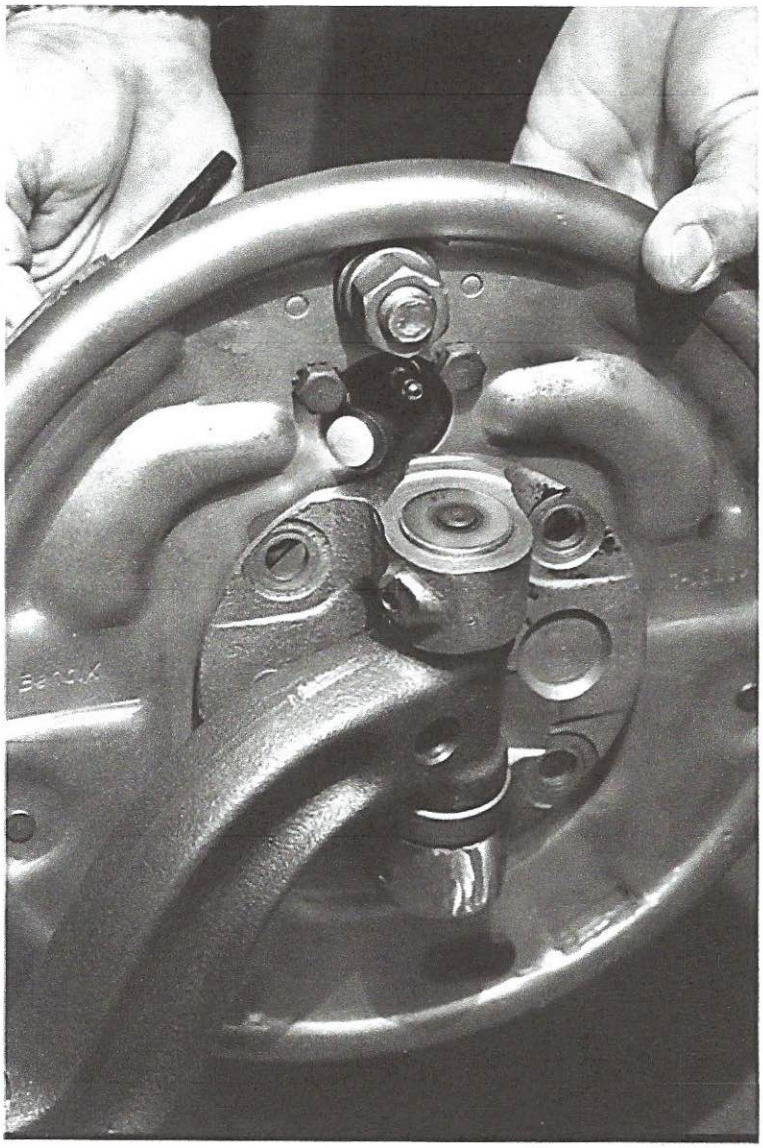
How: All that is used in this conversion from the early Ford system is the spindle from either the '37-'41 or '42-'48. The '37-'41 spindle has a round flange and uses a slightly shorter kingpin (5.480 inches long). The '42-'48 spindle has a square backing plate mounting flange and uses a longer kingpin (5.960 inches long). Either will work with the F-100 brake assembly.

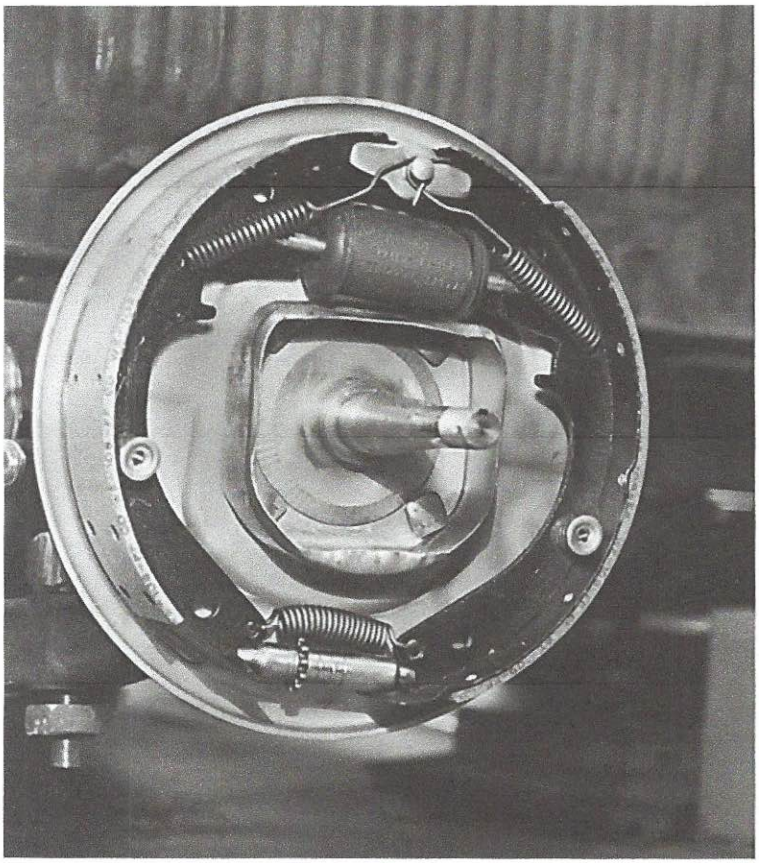
The only modification necessary on the spindle is the grinding of the kingpin boss to provide clearance for the wheel cylinder.



Spindle is ground off at the top where indicated by the pen pointing to the ground

area. View from rear of backing plate shows clearance created between the wheel cylinder and spindle. The backing plate requires no modifications. It simply bolts in place the same as the early Ford units.





Shown is the F-100 backing plate and brake assembly with its self-energizing design and star-wheel adjuster at the bottom. The F-100 hub also requires no modification. A different bearing and seal are substituted to compensate for the difference in spindle size between the early Ford and F-100. The early Fords and the F-100 use the same outer bearing and cup (Timken bearing 09067, Timken cup 09195). The inner wheel bearings are different because the F100 has a larger diameter spindle at the inner bearing mounting point than the early Ford. The new bearing needed is Timken 14116. It has the inside diameter of the early Ford spindle and the outside diameter of the F-100 bearing. The F-100 cup is used (Timken 14276) along with a Victor seal 49195 or National 450461. All tapered bearings use a standardized numbering system that makes it easy to cross-reference between brands of bearing by using the same number.

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