

Technical Notes

A Simple Brake Check with Notes

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I recently worked on a Model A that the owner had just purchased. It was advertised as "total ground up restoration". The brakes on this car did not function properly and adjustment did not seem to work. When I removed one front brake drum and one rear brake drum the problem was very clear. The brake springs were installed incorrectly, and one of the short front brake springs was actually an emergency brake spring. Also, the brake adjusting shaft pins and roller pins were installed so that the cotter keys were facing the brake backing plate. (Fig. 1) I don't know how the roller pins even worked on the roller tracks, because the cotter keys were binding on the brake roller track. All of the pins were removed and installed correctly with the cotter pins facing out. The brakes started working fine after some slight adjustments. Figure 2 shows the brake springs, the brake adjusting shaft pins, and the roller pins installed correctly. The roller pins are different than the adjusting shaft pins. The roller pins have a larger head that rides on the roller track. Figure 3 shows the correct roller pin on the left hand side of the brake track. You can see that it is larger in diameter than the pin on the right side. Also, note that the moving parts are lubricated with high temperature grease that will not melt and foul the brake linings.

Brake Notes

- Brakes should always be adjusted when they are cold. When the brakes are used the friction created causes the drums to heat up and expand. If they are adjusted warm or hot, the brakes will drag due to the fact that the brake drums contract when cooling. This will cause the brake drag.
- When brake linings are replaced always do both sides of the Model A. For example, if the rear linings are fine and only one side of the front is bad, replace each side of the front. That will produce equal braking.
- Why use cast-iron brake drums? Cast iron has a higher coefficient of friction than steel, so it will dissipate the heat faster. They are also thicker than steel drums.
- Early aftermarket non-cast iron (steel) brake drum wall thickness is .145 and can be turned to a wall thickness of .110 or turned .035. Note that these are the brake drums that were produced in the 1940's, 1950's and 1960's.
- Original Ford steel brake drums were rolled and not meant to be turned. **See Ford Service Bulletin page 514 from November 1930.**
- Present day reproduction cast iron brake drum wall thickness is .255 and can be turned .060 oversized for a wall thickness of .195.
- It is a good idea when using original or non-cast iron brake drums to install reinforcing band sets (A-1127). These press onto the brake drum and give support to keep the drum round. They also help with the dissipation of heat, and they help to prevent brake chatter.

A Simple Brake Check with Photos



Fig 1 - Brake pins installed incorrectly

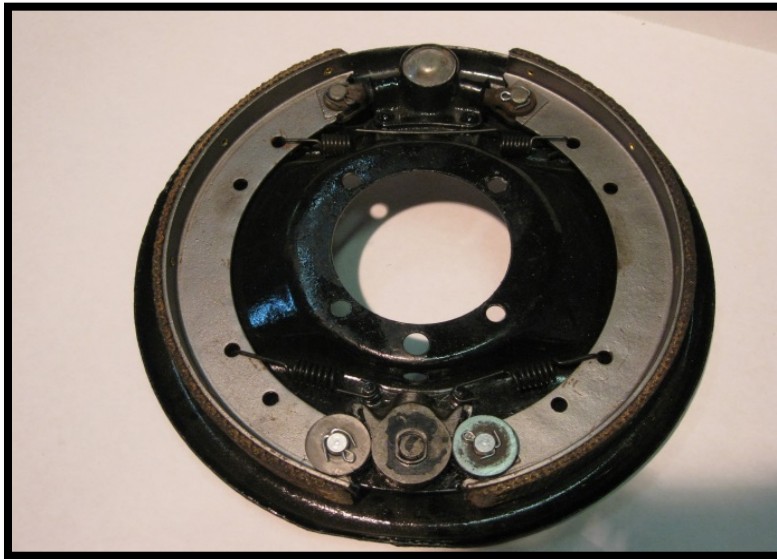


Fig 2 - Brake pins installed correctly



Fig 3 - Rollers