

# Model A Ford

## Removing The Rear Axle Assembly

by Tom Endy 2022

There are a number of ways to remove the rear axle assembly from a Model A Ford. Some of them are not very safe. For many years I have had a cottage industry overhauling differentials and installing overdrives. Early on I saw a need for a safe method for removal of the rear axle assembly. This required the development of special jack stands, jack fixtures, and tools.



This photo shows the collection of jack stands and jack fixtures I use.

On the left is the jack stands that are placed under the front axle. They have large footprints to prevent tipping. The first effort is to place the car up on the front jack stands.

To the right are the jackstands used on the rear section of the frame. They are placed under the frame rails just forward of the rear radius rods. They also have large footprints to prevent tipping. They are too tall to be placed under the car after jacking the car up with a standard floor jack. The procedure then is to jack the car up with the floor jack on the right by placing it under the banjo and jacking the car up high enough to place the pair of low jackstands seen to the left of the jack under the rear axle. An adapter is then attached to the jack that fits around the banjo to lift the car high enough to place the tall jackstands under the frame rails.



The jack fixture is constructed of wood with metal support brackets. It fits around the banjo on the rear axle. The jack has been modified with a large nut welded to the bottom of the raising platform. A large bolt goes down through the fixture to lock it in place on the jack.



The low jack stands are commercially available.







**The front axle jack stands were fabricated and have U-shaped fixtures welded to the top of threaded steel shafts that are inserted into the vertical pipes. The front axle settles into the U-brackets. The height of the jack stands can be adjusted by turning the nut at the base of the threaded shafts.**





The rear jack stands were made from two discarded Model A axle housings welded to steel plates to provide a large footprint. Part of the wheel bearing surface was machined off. U-brackets were welded onto steel shafts that insert down into the top of the axle housings. A hole was drilled through each shaft and a bolt is inserted through the hole to raise the U-bracket up.

The jack stands are positioned under the frame rails and the U-brackets raised up to center the frame in the brackets, then the bolts are inserted and the car is lowered down onto the jack stands.





**It is extremely dangerous to remove a Model A rear axle assembly from the car with the rear spring attached to it. When this is done the tremendous amount of energy packed into the spring is transferred to the 3/8 center bolt that was never designed to hold that much energy even when new. If the head of the bolt should pop off the top leafs will fly 20 feet in the air and take your head with it if you are standing over it.**

**The safe method is to use a spring spreader to spread the spring and capture the energy and then remove the two shackle bolts and lower the rear axle housing and leave the spring securely attached to the frame where it is safe. It can be left that way with the spreader attached indefinitely.**

**Spring spreaders are readily available from any of the Model A suppliers.**





**Another very handy tool is the rear axle assembly cradle. It can be rolled under a car once it is up on the jackstands. The rear axle assembly is then unhooked from the car and lowered into the cradle and rolled out from under the car.**

**This photo shows the cradle with a recently overhauled rear axle assembly in it. The cradle also provides a stable platform for disassembly, assembly, and painting.**

**If the task is to only install an overdrive where the rear axle assembly will not be disassembled, the brake drums are not removed, only the axle nuts. The threaded ends of the axle shafts are provided with thread protectors and the axles ends are captured by brackets in the cradle. The rear axle assembly remains in the cradle after removal from the car during the overdrive installation procedure. The torque tube and drive shaft are removed and replaced with the overdrive unit. The cradle is then rolled back under the car and the rear axle assembly with the overdrive attached is reinstalled in the car.**



**This photo shows a Model A Ford up on the jack stands ready for the rear axle assembly to be removed. The task is to install an overdrive. It can be seen that the rear brake drums are still attached to the rear axles. Only the rear wheels have been removed along with the axle nuts. The cradle will be rolled under the car and the rear axle assembly unbolted from the car and lowered into the cradle.**

**The U-section of the cradle is to allow a floor jack to be positioned under the banjo once the cradle is in place. The jack is then used to lower the rear axle assembly into the cradle after the spring shackle bolts are removed.**