

spring located in *front* of the axle by means of an extension to the radius rods.

The chassis design employed in this roadster is such that the front end must carry the spring *behind* the axle. This suspension makes the frame construction simpler to build, stronger and better looking, being straight and without humps.

By using an early Ford front end with solid axle, either "I" beam or tube in shape will work. Any basic Ford front end from the Model A's to the 1948 models are adequate. We chose the later model front end with its hydraulic brake setup already complete. Pre-forty models can be changed over with little trouble but with extra cost. Another drawback to the early front end is that by using the stock axle the front of the roadster would ride quite high. To eliminate this, a dropped axle of some three inches or more is required, also an added expense.

The choice of the rear end was not as difficult to make. Again, there are two designs. The early models with the spring mounting directly over the axle housing and the later model with the spring hangers behind the axle housings. Here, we took the later rear end with the hydraulic brake setup which has the spring mounted behind the axle. This enables the use of the higher arched Model "A" rear spring. The use of the higher arched spring eliminates the need for a higher kick up in the frame and still maintains maximum clearance. It also gives the roadster a less cluttered appearance when viewed from the rear.

Now that the running gear has been procured it will be necessary to make some modifications. Splitting the radius rods, both front and rear, is a basic change. By splitting the radius rods and spreading them so the ends are attached to the underside of the frame rails we gain a wide open engine compartment that will offer room for various types of engines and transmissions. By spreading and tying the rear radius rods to the frame we gain a more rigid rear end, in that the rear end is allowed to raise and lower, but is restricted from spring torque by these built-in traction bars.

To split the radius rods it is advisable to remove them from the front and rear axle assemblies for easier handling. In front, separate the radius rods at their junction by cutting, with saw for neater appearance, at a point where the yoke and rods are joined. A close look at this area will reveal a seam at this point. Cut ahead but near this joint to retain the maximum length and provide a smaller opening for the new end fittings.

The rear radius rods are done in a similar manner after unbolting them from their common connecting point on the torque tube.

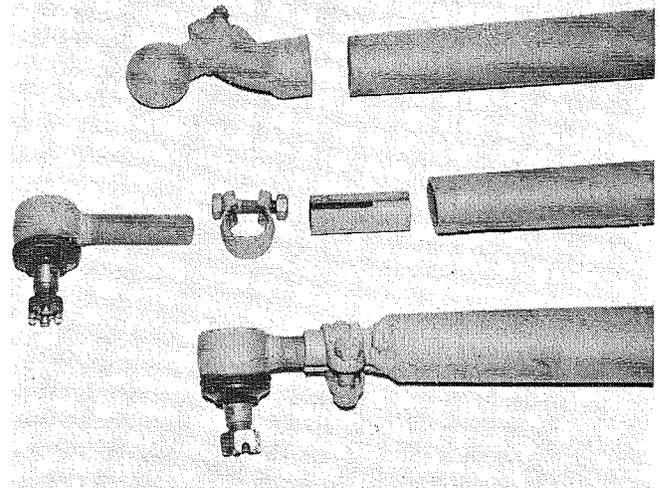
For alignment purposes the end fittings should have one right-hand threaded fitting on one side and a left-hand threaded fitting on the other. This allows alignment to be made by either lengthening or shortening the radius rods the same amount with minimum effort.

There is a choice of end fittings that are suitable. One type, the one used in this article, is the tie rod end fittings from early Ford tie rods, which contain the correct thread arrangement. It is necessary to cut off a length of the threaded ends of the tie rod, approximately three inches long. The second type of end fitting is the Heim ball joint used in aircraft construction. The availability and price of this item restricts its usage, along with the fact that it requires the tapping of new threads in a portion of tubing for the radius rod insert.

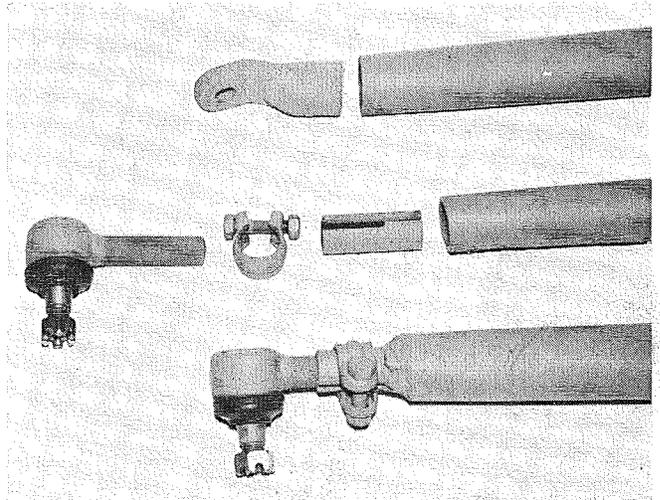
Insert the shortened sections of the tie rods or threaded inserts into the open end of the radius rods. With the tie rod end fittings screwed in the inserts to insure fit and reduce distortion from welding, weld all around, and grind or file the joint for good appearance.

In relocating the front spring to a position behind the

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Shown here is the adding of early Ford tie rod fittings to radius rods after removing from front axle assembly. Top shows pre '48 Ford radius rods cut ahead of original weld seam. Center are required parts; early Ford tie rod end fittings, clamp, portion of the original tie rod and radius rod. Bottom is the completed radius rod that has been modified and assembled.



This shows the adding of early Ford tie rod fittings to radius rods after removing from rear axle assembly. Top is pre '48 Ford radius rods cut ahead of original weld seam. Center has required parts; early Ford tie rod end fitting, clamp, portion of the original tie rod and rear radius rod. Bottom shows the completed radius rod after it's been modified and assembled.

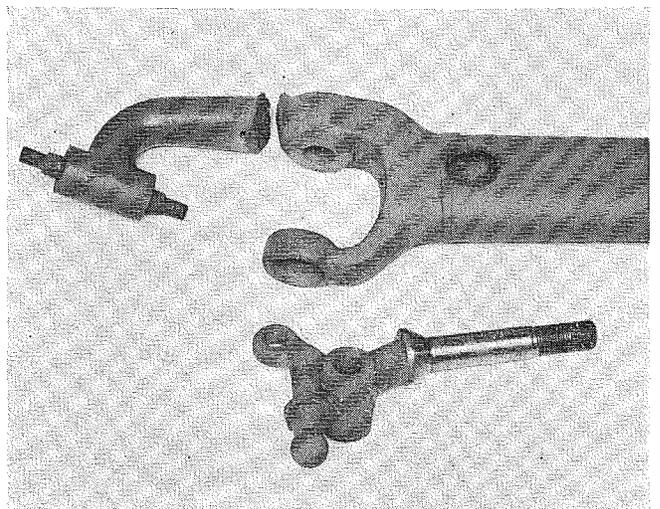


Photo of the front radius rod shows many construction steps. The spring hanger extension is removed, new spring hanger bolt is shown and the hole drilled in the radius rod where it fits.