

HOW TO BUILD A HOT ROD

(continued)

permanently to the frame. Since we need a rear end, too, there are some changes that must also be made there.

To make the rear end less awkward and easier to handle, it would be a good idea to remove the drive shaft, torque tube and spring. The modifications to the drive shaft and torque tube will come in a later article, so set them aside for now.

With the radius rods altered we can assemble them at this time. The original flat spring will be replaced with the higher arched Model "A" rear spring. The new spring requires some spreading to reach its new anchor points. It will be necessary to remove the original shackle studs from the spring perches. If these items are a little stubborn, apply heat and a hammer to drive them out. Insert the new Model "A" shackles to one end of the spring and perch. Secure with the shackle arms and nuts. Using a large and strong clamp, placed behind the spring perch on the axle housing and the eye of the main leaf, tighten the clamp and spread the spring until the other shackle holes line up. Insert shackle, arms and nuts. Another method of spreading the spring is done by stretching the main leaf only. Clamp the spring near its retaining bolt, then remove the bolt. Loosen the clamp slowly until all tension is removed from the spring. Secure one end of the main leaf with the shackles and spread and secure the other end of the spring. Stack the remaining leaves of the spring in place and run a very long bolt through the assembly. Replace the clamp and by tightening the clamp and bolt together, the spring will return to its sprung position. With the clamp still in place on the spring, remove the long bolt and replace it with the original bolt once more.

CAUTION: The spring exerts a great deal of force and care should be taken when spreading.

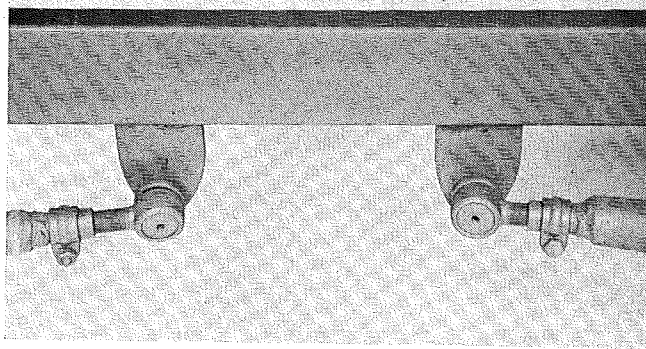
With the rear end assembled it can be bolted to the rear cross-member. It will be quite obvious that the radius rods must be spread in order to reach the frame side rails. Bolt the radius rod hanger brackets to the tie rod end fittings. Apply heat to the radius rod in the area near the attachment point on the rear end backing plates near the tube shape and force the radius rods out and up to a point where the brackets are under the frame.

With the front end and rear end modified and bolted to the spring perches, it is now time to align them and weld the radius rod hanger brackets to the frame.

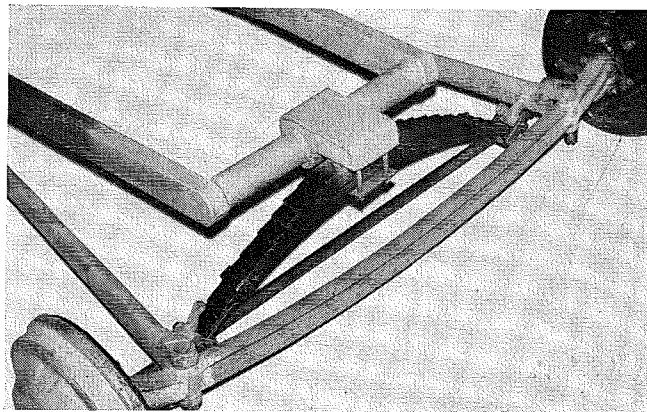
In aligning the rear end, measure from the front corner of the side rail of the frame to a point on the rear end housing. Replace the shortened drive shaft temporarily and check to see that the drive shaft is centered equal distance between the side rails. The points at which the measurements are taken from is not as important as the fact that the dimensions should be the same. When alignment is achieved clamp the radius rod hanger brackets to the underside of the frame side rail and weld.

To align the front end assembly, measure from a point on the rear end housing; possibly the weld seam on top of the axle housing, to the front axle — we suggest the front edge of axle near the radius rod attachment. These points are only suggestions and like the rear end the fact that the dimensions are the same is the most important thing. As in the rear end instructions, secure the radius rod hanger brackets to the frame and weld.

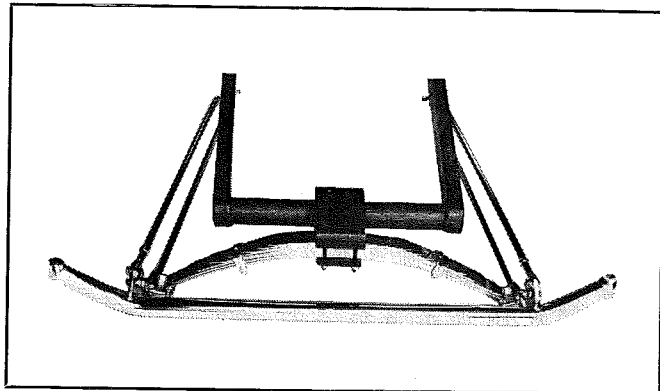
With the basic chassis complete and rolling, next month's installment will deal with the installation of the engine and transmission.



Front and rear radius rods and hanger brackets are shown at final assembly. Early Ford tie rod end fittings are used. Combination of right and left hand threads on tie rods makes for precise, and much easier, alignment after assembly's complete.



A look at the assembled front end shows the Model A spring, modified spring hanger bolts and radius rods mounted on the pre 1948 Ford front axle. Note spring mounts behind the axle.



U.S. Speed Sport of Santa Fe Springs, California, manufactures roadster parts in various stages of completion. Shown here is their front axle assembly which uses the stock Ford spindles.

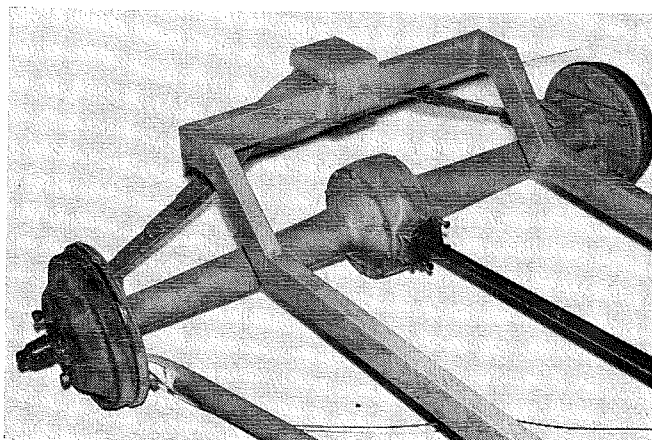


Photo of the completed rear end assembly shows the high arched Model A spring mounted to the rear end. Any Ford or Mercury rear end of 1939 to 1948 vintage may be adapted with ease.