

# Radius Arms - How to Straighten Bent/Bowed Ones

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## Methods for Straightening Radius Rods/Arms:

I need to straighten out a couple of 8N radius arms. They have just a slight bend to them that I noticed only after splitting the tractor. I do have a 20-ton press. Has anyone got any good tips on how to do this the best way? Is heat needed? I already straightened my lift links, which was fun. Without some sort of V block it would have been almost impossible to do, as it wanted to spin rather than straighten.

I just straightened the ones on the 600 I just bought and partially restored. The way I did it was fairly easy. I have a four-foot pipe wrench that I clamped onto the front axle just beside the radius rod bolt. I then took my heavy come-along and tied one end of it to the rear axle and the other to the end of the handle of the four-foot pipe wrench and tightened up on the come along until the radius arm was straight on one side. Then I went to the other side and did the same thing to that side. They are perfectly straight now and I didn't even have to hammer at all.

They are supposed to be straight and if they are bent upwards it takes the caster out of the front wheels and makes them tend to shimmy when at higher speeds on the road. Caster is where the kingpin is angled forward at the bottom end of the kingpin or on the Ford tractor the spindle and pin assembly.

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*"I'm not quite following how you did this. Did you put the come-along and wrench on the opposite side from the radius arm you were trying to straighten? If so, how did you keep the arm on the other side from bending further? Were you worried that the front axle could bend? Did you replace the front axle pivot? When I did mine, the front pivot had been bad for a long time - The hole in the axle and the support was way oval and the threads were shot-which explained the bent radius arms".*

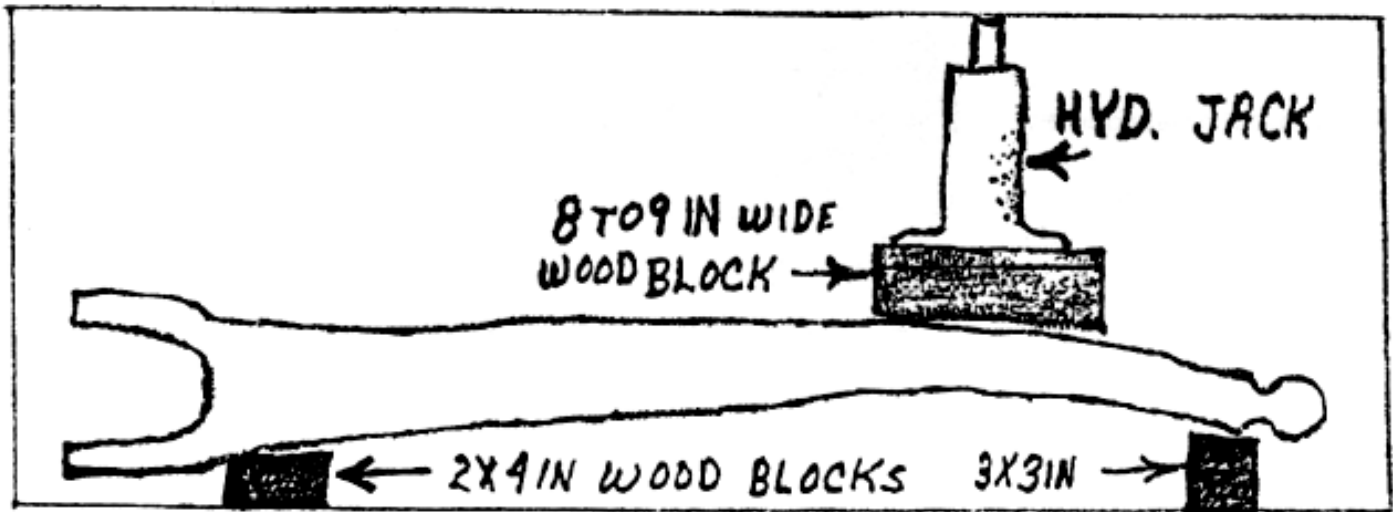
I put the big pipe wrench on the front axle with the handle pointing straight up and clamped onto the axle. I attached the come along chain to the rear axle housing about half way between the differential and the fender. I attached the come along end to the end of the pipe wrench and began to pull. My pins were tight in the axle so as soon as the axle began to turn the radius rod began to bend down. It bent evenly from end to end just like it bent the wrong way to begin with when it got bent up. Hitting objects with the front wheels is what bends them up in the first place.

The axle will twist enough to allow the radius rod to be straightened. The axle will not be permanently twisted. It will spring back. The opposite radius rod has to be straightened on the side it is on in the same manner as the first one. You have to have a real come-along and not one of those little cable things that you can use to pull fence wire etc. Mine is a five-ton, single-strand pull.

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When I restored my 640 (same radius arms as the 8N only a tad longer), I had the same problem. Both were bent into a "rainbow" shape as the result of the front axle pivot being worn sloppy and the torsion load being transferred to the radius arms. I was lucky to get one NOS radius arm (\$15) at a dealership auction when the local FNH went out of business. I was stuck having to straighten the other one. The N Newsletter has had several people write in about this, and the favored method is using wood blocks to support the arm and to spread out the force of the ram on the press. It is easy to

collapse the hollow tube of the arm or dent the arm if you're not careful. Also be careful the arm does not try to "roll" when you put pressure on it. A V-groove cut in each block will help surround the arm and keep it from rolling.



I used this method, took my time, and got the bent one straight enough to match the NOS arm I bought without damaging it. Never use heat- it is not needed and will foul up the temper of the metal. Also, the arms have some "spring" to them. Sometimes you have to bend them beyond straight as they tend to spring back a little when the press is backed off.

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You can lay them on a solid floor and straighten them with a maul. You do not need heat. I would think with a press straightening them would be a "piece of cake".

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I straightened mine with a 6x6x6' post, log chain and floor jack:

1. Remove the radius arm from the tractor.
2. Lay the post on the floor and place the jack on top of the post.
3. Position the Radius Arm with the bend down (the ends will be higher than the center) on the lift saddle of the jack.
4. Take the chain and place around ends of rod and down to the post.
5. Now all you have to do is raise the jack putting pressure on the center of the rod while the ends are fixed. Go slow and don't go too far.



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