

HOW TO SET GAUGE AND ALIGNMENT

BY MARK SEIDL

I am doing a ground up restoration on my Fairmont MT-14-L Milwaukee Road #8035 motor car, and the next step was to set gauge and align the wheels. In everything I read, I didn't find any mention of a tool being used to set gauge. So, I made one allowing me to set my gauge and alignment with one simple tool, all by myself. This method will help you achieve a motorcar that rides safely on the rails without hunting.

First, make sure that the frame is straight, measuring back to front, left to right. Then measure diagonally, left front to right rear and right front to left rear. When those are right, you'll know you have a frame that is square. Then measure center to center on the axles, and they should be parallel. Adjust the frame and location of the axle bearings as needed. Starting with a frame that is straight and square will make the remainder of the restoration that much easier.

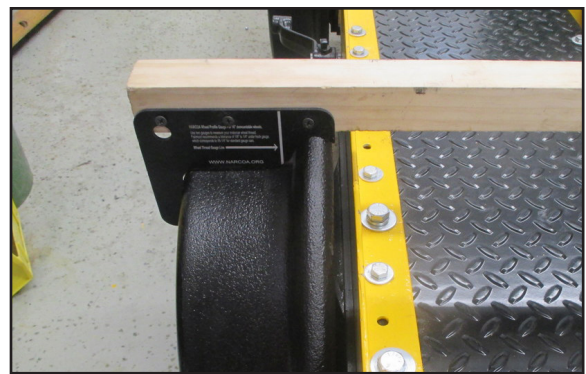
Now came the time-consuming job of installing new insulator cones on the wheels and in turn setting the gauge of the car. Working by myself a majority of the time, I had to come up with a way of measuring gauge, as this measurement is critical. Even with 2 people and using a tape measure and the profile gauges, how accurate can that measurement be? The tape may flex just a little bit giving a wrong measurement.

I have a pair of the NARCOA wheel profile gauges and found a straight piece of 2x2 wood about 60" long. You can also use a straight piece of metal or even a 6' level. Just make sure whatever you use is STRAIGHT and rigid! I took the two wheel profile gauges and securely mounted them to the piece of wood. The profiles have the gauge line marked on them and was recommended by Fairmont to be set at 56 1/4", or approximately 1/4" under gauge. Make sure the flange part of the profile clears the wood/steel.



Wheel profile gauge attached to 2X2

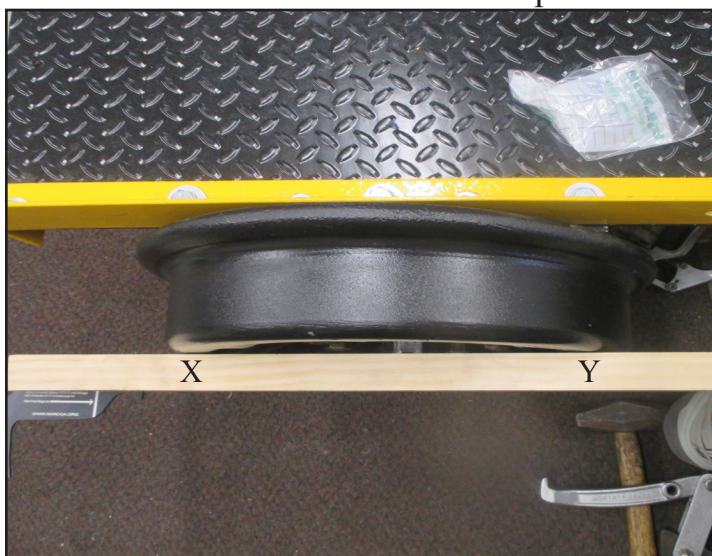
I bolted up the wheels to the hubs, installed new insulator cones on the axles, installed the wheel/hub assemblies and tightened up the axle nuts on each side. Using the gauging tool, I measured the gauge and found it to be off about a 3/4". By sanding down an equal amount off both insulators on each side, I was able to get



the gauging tool to fall right on each wheel flange. Double checking measurements, which others have used to set gauge on their cars, this method was very accurate! The measurements

used are 59-1/2" outside-of-hub to outside-of-hub. The other measurement used to check gauge was outside face of wheel to outside face of wheel. Fairmont recommended 1/4" under gauge at 62 11/16" face to face; mine measured 62 9/16" or 1/8" less than recommended.

Next, I made sure all the wheels had the same distance between the back of wheel and the frame. I tightened up the thrust collars on the axles so the axles didn't slide. Using the straight piece of wood, I held it up to the face of the front and back wheels. I needed to make sure it touched each wheel in two spots. These



are marked on the photo above as X and Y. By rotating the wheels several times, you can make sure the alignment is consistent. If it doesn't touch on all 4 places, you may have to loosen up the thrust collars and slide your axle in or out to get them to touch. Once you have one side done, check the other side, if all your measurements were identical front to back, the other side should line right up using your straight-edge! Make sure all your thrust collars are tight and secured with safety tie wire.

Using the simple tool, my car is now safely in gauge and properly aligned. I can't wait to get it out on the rails!

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FOR ODD NUMBERED DIRECTORS

The success of any organization depends upon having good leaders in key positions. In 2020, NARCOA will elect Area Directors for the positions listed below. Incumbents are automatically re-nominated unless they decline.

Any active NARCOA member can nominate another active member in their Area who they think will do an excellent job as a NARCOA Area Director. Before nominating someone, please check with them first to ensure they are willing to serve. Nominations will close on April 1, 2020.

Please send me your nominations either by e-mail at dan.h.page@gmail.com or to:
NARCOA Elections
6432 Mukai Court
Huntington Beach CA 92647

Positions to be elected:

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Incumbent: Leland Stewart
- Area 11 - AZ, CA, HI, and NV Incumbent: Steve Paluso

Dan Page
Nominations and Elections=