

# O SCALE KINGS QUARTERLY NEWSLETTER

Number 2: April, 2006 (distributed in June)

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## President's Message

I have heard lots of positive feedback about Newsletter Number 1. A big 'Thank You' to Ted for producing these.

Our Board certified the 2005 election results. Secretary Forest Trent and Directors Bob Lavezzi and George Wallace were re-elected. Congratulations to all three.

Our by-laws for the 2006 elections call for nominations through May, ballots to be mailed by September 1<sup>st</sup>, and completed ballots to be postmarked not later than October 1. We have already started the 2006 election process by asking for nominations. Your Board has decided that the election will be completed by mail on this regular schedule so watch for your ballot.

The next big event is the 2006 O Scale National Convention to be held July 19 through 22 in Parsippany, New Jersey. I hope to see you all there. We expect our membership pins to arrive before then and so we will distribute them starting at the convention.

If you plan to attend the convention, please consider volunteering to staff the OSKer's table for a couple of hours.

We will have a meeting at noon, Friday, July 21, at the O Scale National Convention; members and non-members are welcome. A Board meeting will be held at noon the previous day; members are welcome.

Rod Miller  
President

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## Technical Introduction

In this issue of the O scale special interest group we continue the study of the decades-old O Scale car weighting standards. We report on some experiments that we have run and are requesting that you run your own experiments and tell us the results. Based on your experiences, what are your opinions on the best weights for O scale cars?

I would also like to use this space to open a discussion on couplers. The Kadee coupler is so much better than the grotesque 3-rail coupler that we forget that it also is oversized. San Juan sells a correct coupler but it is not automatic. Would you favor a smaller coupler, but larger than the narrow gauge 803, that also mates with the 804/805 couplers? Do you think there

should be a longer shank coupler for passenger cars? Send me your thoughts.

Several readers responded to my comments about the unavailability of an O scale size/clearance gauge from NMRA. You pointed out that Old Pullman sells such a gauge. Thanks for the heads up.

You can contact me at the address at the back of the newsletter or send me an e-mail at [mdflatland@cs.com](mailto:mdflatland@cs.com) Please put "O Scale" or such in the subject line so I will be sure to see it. If I see Viagra, Easy credit, or Help transfer money out of Africa, I will be sure to trash it.

So, read on.

Ted Byrne



## O Scale Car Weighting

### Background

O scale modelers commonly say that their trains don't derail as much as the smaller scales. But they still derail too often and model trains have always had this problem.

The reasons are that model train layouts have sharper curves, more abrupt turnouts, more uneven roadbed, and use train speeds on these tracks that would be laughable in the real world. This is probably not going to change.

As a result, a heavy car at the end of a train can pull lighter cars off the rails or cause them to pick the turnout points. The solution is to have consistent car weights.

Years ago the NMRA studied this problem and created formulas for car weights for each of the scales. You may recall that the formula for O scale is 5 oz. plus 1 oz. per inch of car length. So a 40 foot freight car should weigh 15 oz. Today there is some unhappiness with these NMRA car weighting guidelines.

So why should this be so? The modelers, who created the NMRA formulas then, are as smart as we are today, probably smarter. But they used the heavier cars of their time and they realized that it is much easier to add weight than to remove weight. So their rule may not be correct today.

The point is whether we should adopt a new weighting standard.

Joe Scales, an O scale modeler from Virginia, has done more than complain; he has actually studied the problem and tested 25 car trains of 40 foot cars. So I made it a point to talk to him at the recent Chicago O scale show. He kindly

agreed to share his thoughts if I did the writing. Joe made three major points.

### Joe's First Point:

Joe recalled that older O scale model freight cars were typically made of wood or cast metal or possibly tin-plate and were naturally heavier than today's plastic cars. And, like the prototype, few cars were longer than 40 feet. There were no container or autorack cars then.

I decided to compare three groups of my own 40 foot cars. The first group consists of cars that I bought at the recent John Armstrong estate auction in Harrisburg, PA. Each car came with a certificate of authenticity and an index card, in John's own handwriting, telling the history, status and evaluation of the car. These cars were probably the top level of quality 40 years ago. The cars weigh from 15 to 20 oz. somewhat above the NMRA specified weight. Some have added weights but others are naturally that heavy.

The second group is a selection of old cars from the boxes under my layout. These range from cast iron to wood and they are crude and heavy, up to 20 to 24 oz. By the way, a block of solid pine lumber, the size of a boxcar, weighs about 16 oz.

The third group is a selection of more modern 40 foot plastic cars. These can be as light as 7.5 to 8 oz. after I removed my extra weights. Some better cars, like the Atlas reefers or the O Scale West convention car are about 17 oz., near the NMRA weight.

We suspect that the concept for larger weight for longer cars is correct. Joe is now studying 50 foot cars.

### Joe's Second Point:

Joe's second point was about wheels. Old cars had straight axles with friction bearings that fit into holes in the bolsters. Maybe there were bronze bushings. Newer cars have needle bearings of smooth plastic. As a result they roll much better.

I built a calibrated inclined track and again, my own experimental groups agreed. The

Armstrong cars had good trucks for their time and began to roll at an inclination of 2 to 6 degrees. My run-of-the-mill cars had cruder wheels and began rolling at 4 to 6 degrees. My plastic cars (Again I use Atlas cars for the standard) began to roll at .75 to 1.5 degrees. This is remarkably low friction. By the way 6 degrees is a coefficient of friction of about 0.1.

### Joe's Third Point:

Joe's third point was that car weighting did not then and does not now substitute for a good track design and accurate wheel alignment. Accurate rail gauge is not just an issue with self-laid track. Pre-made track (snap track) is usually pretty accurate out of the factory but the plastic can warp and if you fasten the plastic ties too tightly they bow upward over time and move the rails closer together. The NMRA gauge is invaluable for checking the rail spacing.

Also, wheels are often out of spec. The wheels slide on the axles and need to be adjusted. Plastic wheels seem worse than metal wheels.

Joe also noted that curves today are generally more gradual than they were 50 years ago.

### Conclusions

So my data confirm Joe's analysis: 40 foot freight cars today are lighter and need to have weight added to bring them up to NMRA level, and they have very much better wheels.

A new car with half the weight and a third of the friction will be 6 times as easy to pull. Thus model locomotives today can pull longer trains more easily and cars are less likely to be derailed.

So Joe and I are looking for volunteers to conduct experiments with lower car weights and, of course, with modern car wheels. For uniformity we suggest that tests be done with a 25 car train on good track. Also, run the train both forwards and backwards.

Who would like to run this test and tell us whether the cars stay on the track with a weight rule of, say, 4 oz. plus  $\frac{3}{4}$  oz. per inch or 3 oz. plus  $\frac{1}{2}$  oz. per inch? (By the way, the NMRA On3 rule is 1.5 oz. plus 0.75 oz. per inch of length)

### All-Purpose Response Form

(Send all responses, except dues, to editor for distribution, address on reverse)

DUES: Send dues to Forest Trent, Secretary OSK, 304 Christopher Place, Union, MO 63084—2931)  
Individual dues are \$10 minimum, \$25 suggested, per year. Business or Sustaining dues are :  
\$50 or more per year.

2006 O Scale Hall of Fame nomination (elections in July)  
Write-in \_\_\_\_\_

Any other comment or question:

## Upcoming Meetings

July 2-9, 2006, Philadelphia, PA  
**NMRA National Convention**  
[www.ij2006.org](http://www.ij2006.org) for information

July 19-22, 2006 Parsippany, NJ  
**2006 O Scale National Convention**  
LSSAE for information to: Bob Lavezzi,  
C/o New York Society of Model Engineers, 341  
Hoboken Rd., Carlstadt, NJ 07072-1152  
[www.2006oscalenat.org](http://www.2006oscalenat.org)

Aug 5, 2006, Denver PA  
Eastern O Scalers Swap Meet  
Denver Fire Hall, 4<sup>th</sup> & Locust Sts., Denver, PA.  
[www.easternoscalers.com](http://www.easternoscalers.com)

Sept. 22-23, 2006, Indianapolis, IN  
Indianapolis Midwest O scale fall meet.  
Marriot Indianapolis East Hotel, 317-322-3716.  
James Canter, 1203 Rotherham Lane, Beech  
Grove, IN 46107-3323, 317—782-3322.

November 4 2006, Cleveland area OH

Cleveland 2-Rail O Scale Train Show. Lakeland  
Community college, 7700 Clocktower Dr.,  
Kirtland, OH 44094

## Periodicals featuring O scale:

**48/ft O Scale News**  
PO Box 51  
Elmhurst, IL 60126-0051

**O Scale Trains**  
PO Box 238  
Lionville, PA 19353-0238

**O Gauge Railroading** (primarily 3-rail)  
33 Sheridan Road,  
Poland, OH 44514-1680

**Model Railroading** (features On30)  
Highlands Station Inc.  
2600 S. Parker Rd. Suite 1-211  
Aurora, CO 80014

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