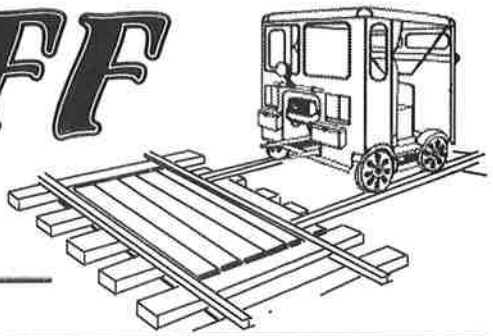
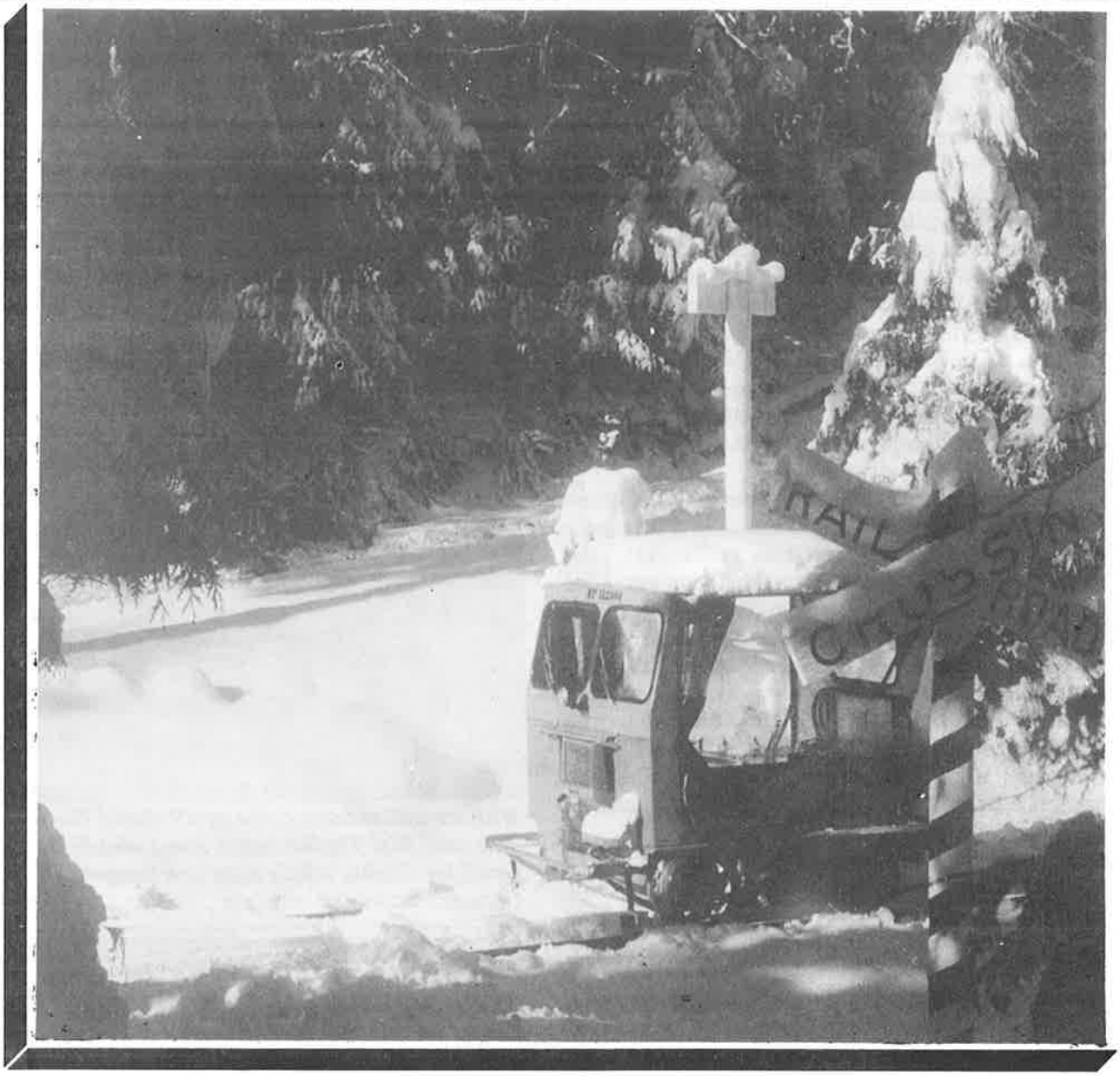
THE SETOFF



THE OFFICIAL PUBLICATION OF THE NORTH AMERICAN RAILCAR OPERATORS ASSOCIATION (NARCOA)

November/December 2000 Volume 14 - No. 5



Inside:

From the President
by Ron Zammit

As I write this it is over a week until Thanksgiving, but this will be the only chance I have to wish you all a happy Thanksgiving, Merry Christmas, and Happy New Year. And the new US President is still unknown! Isn't democracy wonderful sometimes? The hassle is worth it, regardless.

In NARCOA news, I've been exploring ways to improve the SETOFF. The concern has been delays in getting the issues to member's doors. Please remember that we have no paid staff, and our publisher, Ernie Jeschke, gives us a great rate for publication and mailing. I used the NARCOA forum (check the web page for information about joining) to get input from members. While it would be nice to have Jan (our Editor) submit an all electronic manuscript via the net, Ernie's press cannot work with such a format. It seems as if it would be faster if Jan submitted the entire manuscript to Ernie in the format his press needs, so something along these lines will be attempted soon. Bear with us as we try to improve this situation.

The rule book has been getting favorable comments, and I hope the Board can take a final vote soon. I forgot to mention last issue that your operator's rule book certificate has been extended for another year, until January 31, 2002.

In the latest issue of *Railway Age* the American Short Line and Regional Railroad Association has announced the 1999 Jake (safety) awards for short lines (no FRA reportable incidents for year). You can see the names of these lines on the ASLRRA web page: www.aslrra.org. Member Al McCracken has been issuing lapel pins in NARCOA's name to employees of the railroads so honored.

Al's program has been a tremendous success in encouraging goodwill from the short lines to our hobby. Want to help this program? It started from Al's own pocket, but Tom Norman now has a line item in the NARCOA budget to help Al with expenses for getting the pins made and mailed out. No NARCOA dues or income goes to this cause. Traditionally, motor car groups have donated funds. Some railroads will donate their motorcar excursion fees, if presented with the idea. Would you give it a try next year? In all, 153 railroads received Jake Awards, so that's a lot of pins!

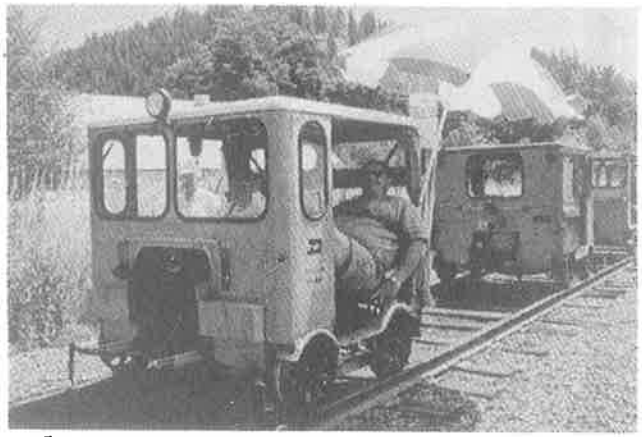
That's it. Happy holidays, and I'll look forward, with you, to the new year of running our motor cars. May it be our most successful year ever.

Ron Zammit

Some of the President's Pics . . .

PRO Camas Prairie, 2000

Bud and Nancy Stych out of Grangeville, ID, Half Moon Trestle on PRO Camas Prairie.



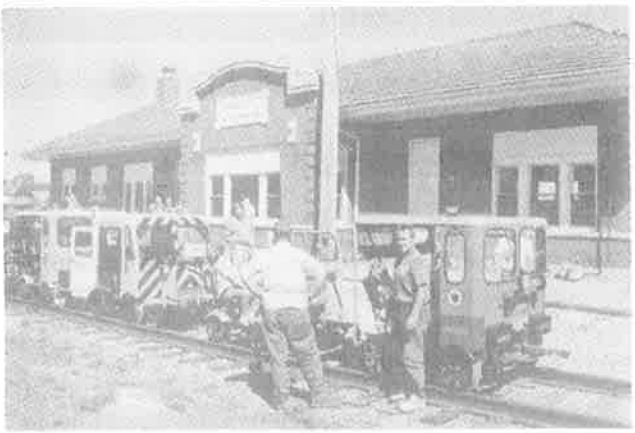
Who says Montana folks can't stand the heat? Jan and Bill Taylor catch some shade in Orofino, Idaho, while cars are turned, PRO Camas Prairie excursion.

Please submit materials

for the January/February issue of ***THE SETOFF*** by January 15 as follows:

Classified Ads and Excursion Announcements ..... Bill Coulson

Letters to the Editor and All other Materials and Photos..... Jan Taylor



Mike Mitzel in front of Ottawa, IL station.

Bud and Nancy Stych in Ottawa, IL

Cover Photo

Summer or winter, track maintenance is never done. This track worker has stopped at a grade crossing somewhere near Snohomish, Washington, to take a break. He's probably on his house roof, dreaming about the perfect run through a winter wonderland.

A Rick Leach photo.

Guidelines for Submitting Materials for Publication in *THE SETOFF*

1. Our editorial policy is to publish in ***THE SETOFF*** all materials received, although they may be subject to editing for space considerations.
2. Photos and materials submitted for publication in ***THE SETOFF*** cannot be returned because they are archived.
3. Letters to the Editor of the ***THE SETOFF*** will not be published unless they are signed, and a phone number is indicated. This is necessary to permit ***THE SETOFF*** Editor to authenticate that a letter is written by the person signing. However, the letter writer can request that his/her name not appear in ***THE SETOFF***, and "Name withheld upon request" would appear in such instances.
4. Submit either black and white or sharp, color prints for publication. Please label the back of the picture as to its subject matter and photographer. Do not send slides.
5. We cannot publish copyrighted materials such as photos, posters, cartoons or articles without written permission from the author or publisher. Sender must provide written permission at the time of submission.
6. Excursion stories, technical articles, and lengthy submissions should be typed or printed. Ads, meet notices and short articles may be handwritten. Please include your phone number with your submission--**even with E-mail**--in case we need to clarify something we don't understand.
7. Send materials to ***THE SETOFF*** editor by the 15th of January, March, May, July, September or November for publication the following month's edition.

THE SETOFF

Volume 14 Number 5

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THE SETOFF is the official publication of the North American Railcar Operators Association (NARCOA) and is published bimonthly to promote safe operation of railroad motorcars and to encourage fellowship and exchange of information among motorcar enthusiasts. Membership in NARCOA, which includes a subscription to ***THE SETOFF***, is $20.00 per year and is available from Membership Secretary Joel Williams. Please address all membership inquires to Joel at the above address.

Visit NARCOA's Website at:
http://www.NARCOA.org

Renewal Time for Insurance

by Tom Norman,
NARCOA Insurance Administrator

It's that time of year again! Time to renew your motorcar insurance coverage for 2001. NARCOA members' coverage expires January 31, 2001, and you need to have your new Evidence–of–Insurance card for all insured excursions beginning February 1, 2001, and ending January 31, 2002. At the NARCOA Board meeting, the expiration date of the NARCOA Rule Book Certification Card was extended to January 31, 2002, so you do not have to be concerned with the rule book test for the upcoming insurance year. Of course any new insurance applicant will have to pass the rule book test.

I'm happy to report that the premium for next year has dropped from $140 to $130. Member participation increased from 610 last year to 692 in 2000. Based on General Accident's premium structure, we can offer a lower rate when our membership increases. However, 2001 is the final year of our policy with General Accident, and we will have to renegotiate coverage for 2002.

Current participants should return their renewal applications as soon as possible. Some members do not realize that the $500,000 Personal Liability and the $5,000 Physical Damage ($250 deductible) policies cover the member all year long, not just at NARCOA–approved insured excursions. Homeowner or Automobile policies do not cover third party physical injury or property damage related to railcar liability, nor physical damage to your motorcar. So return your applications before 2/1/01 so that you have no gaps in coverage.

Hy–rail owners are covered under the Commercial General Liability, Personal Liability and Physical Damage Coverage, however only while the hy–rail is supported by and operating on the rail. Hy–rail owners will again be required to show proof of automobile liability insurance to confirm coverage when the hy–rail is off the rail.

You will find the 2001-2002 Application, NARCOA Agreement, and Description of Insurance form inserted separately in this issue of ***THE SETOFF***. Please complete the application, carefully following the instructions, and return to me for processing. If you misplace this insert, you may download the forms from NARCOA's web site at www.narcoa.org or contact any one of the NARCOA Area Insurance Representatives listed below:

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(continued from page 11)

ing was all the measurement system indicated. The same lack of bending was found during repeated tests of rapid deceleration in first gear. There is no question this dual idler chain drive eliminates the excessive vertical bending force on the MT19 rear axle.

Other Benefits

A nice surprise with the dual idler is the noticeable improvement in handling. Even my wife Kathleen noticed the difference! I'm very accustomed to the sloppy behavior of the MT19 due to the loose chain between acceleration and deceleration. The engine always hunts a bit, and the CCKB engine with a loose chain is often somewhat jerky in this in–between range. With the dual idler the chain can be adjusted with much less slack, and the amount of slack does not change as the axle moves up and down. So the chain whip is gone, and the resulting hunting and jerking between acceleration and deceleration is gone too.

Another important improvement with the dual idler setup is the lower chain no longer rubs on the brake shaft. The top of my brake shaft has two worn slots due to many years of the loose lower chain rubbing on it. With the dual idler, the chain runs nearly 2" above this shaft at all times, so it doesn't even get close to rubbing it.

A Study Of The Vertical Forces On The Rear Axle In A Fairmont MT19A

by Bill Owen
in conjunction with
Mike Paul and Tom Norman

The Problem

The axle breakage problem in Fairmont MT19s is well known. Every year on our excursions several MT19 axles break while broken axles on other Fairmont cars such as the M19 (belt drive) or MT14 (chain drive) are much less common. A lot of good work has been done to try to understand and resolve this problem by Fairmont as well as several operators in our hobby.

Fairmont Service Data #411 recommended the center bearing and bearing support bracket be adjusted and maintained such that the axle does not bend more than 1/8" in the horizontal direction. Fairmont made available a service group package that relocated the center bearing and support bracket to the rear and discarded the center bearing spring. Tom Norman has worked on several aspects of this problem, including making high strength axles and improving the keyway. Mike Paul has arranged for analysis of broken axles that shows the failures are stress–related.

Most of the work on this problem has focused on properly adjusting and positioning the center bearing and support bracket. Several people have recommended that the center bearing spring should be removed to avoid the continuous downwards bending force it places on the rear axle. But MT19 cars have broken axles both with and without the spring.

Last year Tom Norman suggested it is important to make sure the axle is straight to avoid continuous bending forces a bent axle would see at the center arm. Mike Paul points out, however, that an axle that is bent significantly between the axle bearings will try to "orbit" at the center bearing, and end up destroying the center bearing.

So to this point, we had not identified a force on the axle large enough to cause the axles to break at such a high rate.

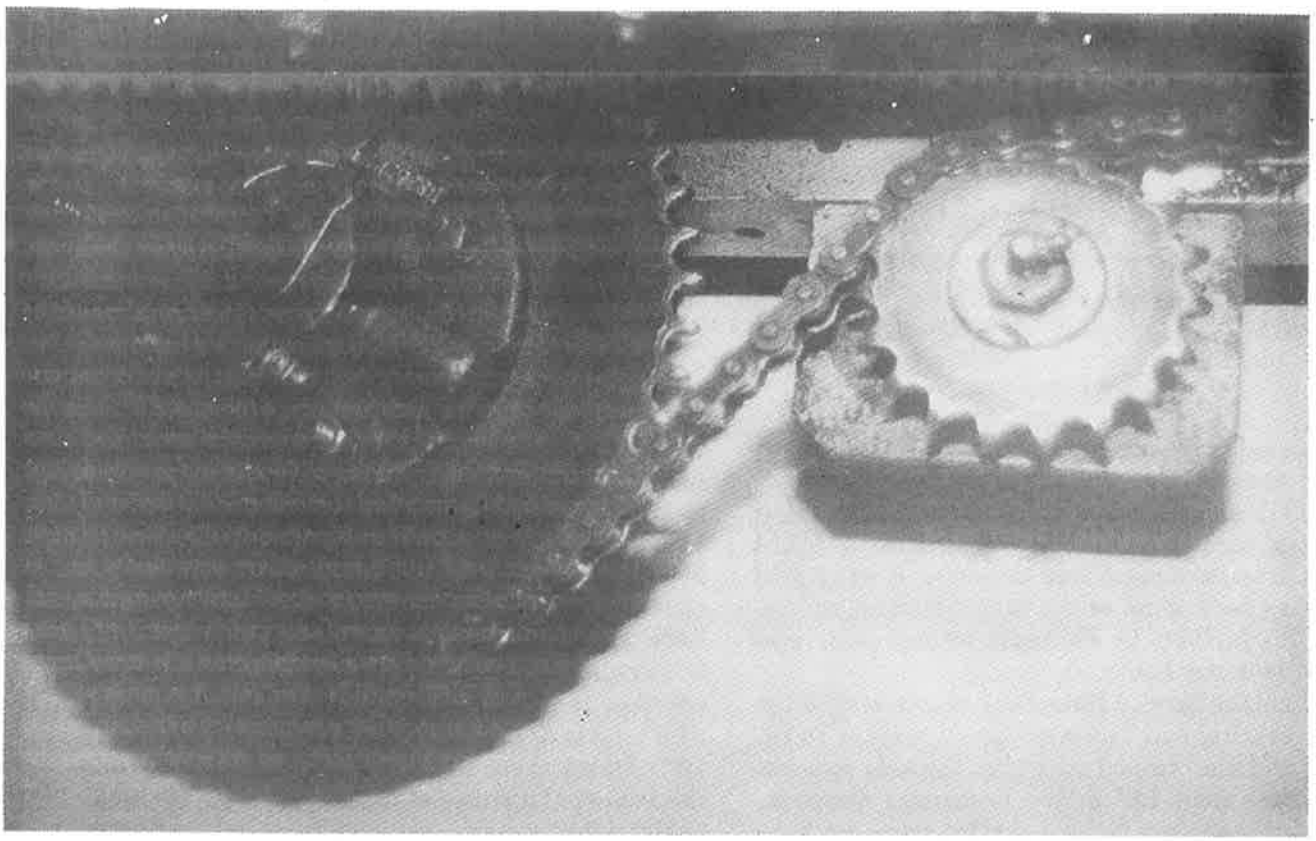
How Much Force Is Needed To Break An MT19 Axle?

Tom Norman has done a lot of work on this recently and has found that the .125" keyway with sharp corners in the standard Fairmont MT19 axle reduces the strength of the axle by more than a factor of 3. A 1045 steel bar has a yield point of 55,000 psi. If the Fairmont keyway reduces this strength by a factor of 3, then a stress greater than about 18,000 psi will exceed the strength of the axle at the keyway. Since we know the axles usually break near the edge of the sprocket next to center bearing, the force necessary to produce a stress of 18000 psi can be calculated. The distance from the left side of the sprocket to the inside of the left wheel bearing is 31.5" and to the inside of the right wheel bearing is 16". Using these distances, the calculated force needed to put a stress of 18,000 psi on the sprocket is about 240 pounds, and this force will bend the axle a little over 3/16".

The amount the axle bends as a result of force on the sprocket can be measured directly. Place wedges between the frame and wheel bearing blocks so the axle is held all the way down and cannot move; place scales under the sprocket and gently lower the car down on the scales. Measure the distance from the axle to the center frame member first with no weight and then with the weight of the car on the scales; the difference is directly the amount of bending resulting from the force of the weight of the car on the sprocket. On my MT19, the rear axle bent upwards about .25" with 300 pounds on the sprocket. This is about 75 pounds per 1/16" deflection which agrees well with the earlier calculations.

Where Can A Bending Force This Large Be Coming From?

The location and analysis of the breaks as well as the history of this problem give us some important clues. The M19 belt drive cars do not seem to have this problem. The problem appeared when Fairmont introduced the MT19 with a chain drive. This certainly suggests the conversion to chain drive contributed to the problem. Also, the breaks usually occur at the sprocket and are stress–related, again suggesting the chain drive has something to do with the problem. Looking at the path of the chain in the MT19, one notices that the chain comes off the top of the rear sprocket in a mostly horizon-



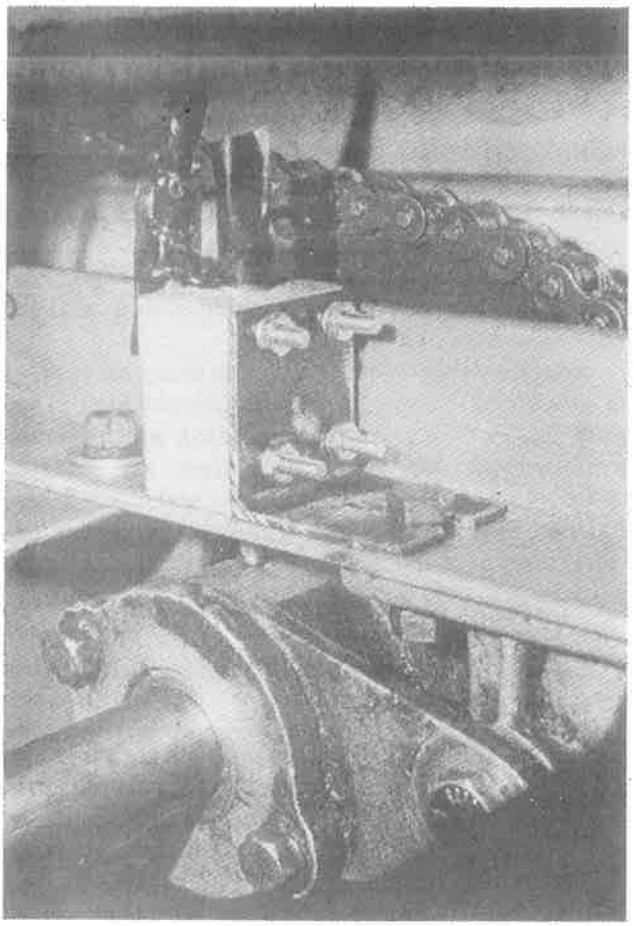
Original Fairmont idler sprocket on MT19.

tal direction. Off the bottom of the rear sprocket, however, the chain is routed up and over the idler sprocket, which causes the chain to come off the bottom of the rear sprocket at about a 45–degree angle upwards. (Please see the picture of the MT19 chain drive taken under the right side of the car.) This means whenever the bottom of the chain is under tension, the axle sees both a forward horizontal force and an upwards vertical force. Since the angle is about 45 degrees, these forces are nearly equal. A properly adjusted center bearing and support bracket, which is located right next to the sprocket, very effectively counters the forward horizontal force. This prevents any significant bending of the axle in the forward direction.

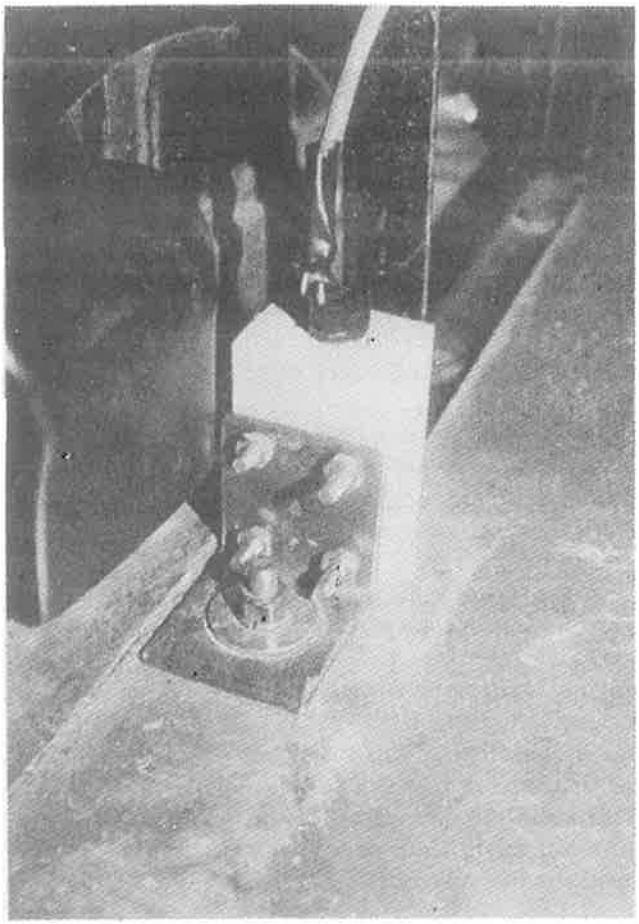
However, the axles in a MT19 are sprung and supported vertically only by the bearings next to the wheels. This means any vertical force on the rear axle has to be countered by bending of the axle itself between the wheel bearings. Realizing this, we clearly needed to measure the vertical forces on the axle in a MT19 under actual operating conditions to see what was really going on. One theory was that a high vertical force occurred on the axle whenever the lower chain was under tension and the car went over a sharp bump such as a bad rail joint. The strong springs would force the axle to move down, but the lower chain (which is under tension and cannot stretch or give) would prevent the center of the axle from moving down instantly. This would cause a brief, high vertical force on the axle. In order to measure this kind of a force in a MT19, a system was needed that could measure the amount of bending of the axle with reasonably fast response time.

A Real Time, Axle Bending, Measurement System

To make these measurements while operating under actual conditions on the rails, I installed an electrical measurement system on my MT19A. Three linear position sensors were mounted directly above the three bearings on the rear axle—one over each wheel bearing and one over the center bearing. (Please see the pictures of the sensors mounted over the left bearing block and the center bearing block.) A linear position sensor is just a linear resistor with the wiper connected to a pin. The pin rides on top of a bearing block and tracks the vertical position of the axle. (This pin is visible in the picture showing the center sensor.) Each sensor produces a voltage directly proportional to the vertical position of the axle at that location. I designed and built a tiny analog computer which electrically calculates the unbent position of the center bearing based on the inputs from the left and right position sensors. It then electrically subtracts this from the



Center bearing position sensor.



Left wheel bearing block position sensor.

actual position measured by the center sensor. This difference voltage represents the amount of vertical bending in the axle. This difference voltage drives a bar graph display, so the bending is easily visible as the car is operated. The response time of the linear position sensors, the analog computer, and the LED display is very fast, so it is easy to see even a very brief bending event if it occurs. The circuit board and display are suspended with rubber bands inside a box to reduce vibration and shock. (If you are interested in more information on this system, please contact me, and I'll be glad to discuss it with you in more detail.)

Measurement Results

The axle bending measurement system was installed in my open MT19. The center bearing arm in this car is mounted in the original position in front of the rear axle, and the spring was removed. The measurement system was calibrated such that each dot on the display indicates 1/16" of bending. I ran the car at Niles Canyon, which is a good test track since the car runs forward slightly downhill for seven miles and then has to back up—uphill—for seven miles. Remarkably, the axle bending measurement system worked very reliably. This is what I learned:

1. In the forward direction, no bending was observed in either low or hi gear. Even over rough track and joints there was no indication of bending.
2. Engine braking in high gear bends the axle about 1/16" to 1/8".
3. Engine braking in low gear bends the axle up to 1/4" !
4. Reverse operation in low gear bends the axle up to 5/16" !
5. Reverse operation in high gear bends the axle 1/16" to 1/8".

The maximum amount of bending depended directly on how much traction we had. On the first run in the morning the track may have still been a little damp from the morning fog, and it only deflected about 3/16" in low gear in reverse before the wheels broke loose, which immediately decreased the amount of bending. On the second run in the morning, the track was dry, and I saw up to 5/16" bending as I accelerated in reverse in low gear.

Analysis of the Results

These measurements show the axle does not bend significantly on rough track as theorized. The fact that no vertical bending was measured when the car was on rough track suggests the axle is quite rigid, and its strength–to–weight ratio is such that the center of the axle, including the mass of the sprocket, is not bending measurably over bumps. Also, even though the lower chain is under steady tension while operating in reverse, there still is very little change in the amount of bending on rough track.

But what we discovered instead is even more interesting. The 1/4" and 5/16" vertical bending on this axle during engine braking in the forward direction or during acceleration in the reverse direction is very large. This is definitely enough to exceed the stress limit of 18000 psi on the 1045 steel Fairmont axle with a .125" keyway with sharp corners. The fact that this occurs only during forward engine braking or reverse acceleration shows this excessive vertical force on the axle is a result of the lower chain being under tension which puts both a vertical and horizontal force on the rear sprocket. This simply indicates the 20–HP Onan CCKB engine has more than enough torque in low gear to bend the axle excessively in the MT19.

Conclusions and Recommendations

Fortunately this only occurs in first gear during forward engine braking or reverse acceleration—which does not occur frequently. But in heavier cars with more traction, the bending may be even greater. This may explain why heavier MT19 cars such as cars with enclosed cabs, turntables, or extra heavy loads have more problems with axle breakage. An open MT19 has less traction which would tend to reduce the axle bending problem.

Based on this information, one thing an operator can do right away to reduce this problem is to avoid heavy forward engine braking and reverse acceleration in low gear. Also, there are several modifications to the MT19 rear axle and chain drive that can be done that will significantly reduce or nearly eliminate this problem. That will be the topic of the next article on this subject.

Acknowledgments

I want to express my appreciation for the work Tom Norman has done on this problem in the past, and for the all the force/bending/stress calculations he did for this work. Also my thanks to Mike Paul for his many good suggestions and encouragement and for enticing his employer's metallurgist into examining failed axles to determine why they were failing from an engineering viewpoint.

An Improved Chain Drive For The Fairmont MT19

by Bill Owen

The study of the vertical forces on the rear axle of a MT19 showed very large vertical bending forces on the axle during heavy forward engine braking or rapid reverse acceleration in first gear. These forces are a result of the chain coming off the bottom of the rear sprocket at about a 45–degree angle in order to go up and over the idler sprocket. In order to understand why the chain follows such a path, one needs to know some of the history of Fairmont's M19 and MT19 motorcars.

The M19 Drivetrain

This series of inspection cars started with the M19, which is a belt–drive with a 2–cycle, 8 to 15–HP engine. The belt runs directly over a pulley on the engine shaft to a pulley on the rear axle, and a spring–loaded tensioner pulley is located on the bottom side of the belt. In order to operate in reverse, the engine is reversed. The belt slips on the engine pulley until the spring–loaded tensioner pulley is pulled upwards, tightening the belt around both the rear pulley and the engine pulley. Once underway, only a small amount of upwards tension on the spring–loaded tensioner pulley is needed to prevent the belt from slipping and to maintain speed on most grades. The M19 is a sprung car, which means the cars weight is supported by springs on each of the axle–bearing blocks, and the axles are free to move up and down a little over 1/2". To counter the forward bending forces on the rear axle coming from the belt drive, a center bearing supported by a lever arm is positioned on the rear axle right next to the pulley. The levered support arm allows the axle to move up and down freely but prevents the rear axle from bending in the forward direction. A small com-

pression spring is placed in the lever arm such that the lever arm pushes down on the axle with a steady force of about 50 pounds. This approximately counters the steady upward force on the rear axle due to pulling up the spring–loaded tensioner pulley. This design appears to work quite well, as we have quite a few restored M19s operating, and they don't seem to have any problems with rear axles breaking.

The MT19 Drivetrain

Several major changes in the drivetrain were made when Fairmont designed the MT19. The engine is a 2–cylinder, 20–HP Onan CCKB with a 2–speed transmission and forward/reverse gears. To transfer this extra power without slipping, a chain drive between the transmission and the rear axle is used. This new drivetrain allows the MT19 to operate quite well over a wider range of speeds and track conditions. The MT19 chain follows the same basic path as the belt—from a sprocket on the transmission to a sprocket on the rear axle and then from the bottom of the sprocket up and over a fixed idler sprocket on the lower side of the chain. The idler sprocket is located in about the same location as the tensioner pulley is on the M19 and holds the chain up and over a frame cross member and the brake shaft. With the idler sprocket in this location, the chain comes off the bottom of the rear sprocket at about a 45–degree angle in order to go up and over the idler sprocket. Since the idler sprocket is bolted to a bracket, it does not have any give like the spring–loaded tensioner pulley in the M19 has. Also, a chain does not slip like a belt, so any tension on the chain is transferred directly with very little loss to the rear sprocket. This is necessary to transfer power from the much more powerful engine and a geared–down transmission. But as we now know, any tension on the lower chain results in both forward and vertical forces on the rear axle. The center bearing and support arm counter the forward forces, but since the sprung axle has to be free to move in the vertical direction, the only way to counter the vertical forces is for the axle itself to bend.

The 20HP Onan in low gear has plenty of torque (which is multiplied about 2.9 times in low gear) which can bend the axle more than 5/16" in the vertical direction. This bending is the primary reason the MT19 axles break so often and so early in life.

Another important contributing factor to the axle breakage problem is the keyway in the MT19 axle. In order to handle the much higher torque on the rear sprocket, Fairmont increased the keyway depth to 0.125", compared to the M19 axle which uses a 0.0492" keyway depth. This deeper keyway reduces the strength of the axle, which further aggravates the breakage problem.

The Fix

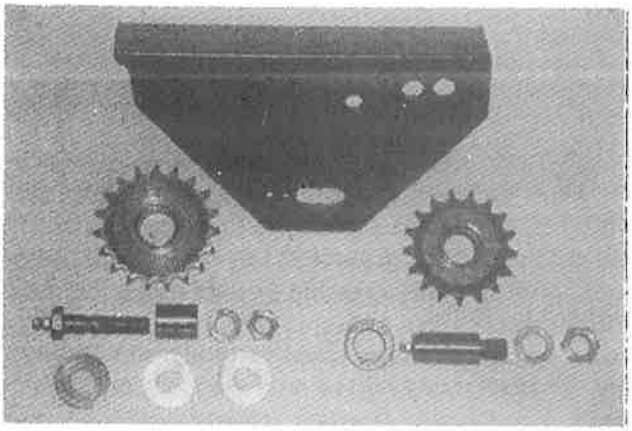
Now we understand the primary cause of the MT19 axle breakage problem is the excessive bending of the axle due to vertical forces from the chain coming off the rear sprocket at a 45–degree angle. To fix this problem, an improved chain drive is proposed which eliminates these vertical forces by having the chain come off the rear sprocket in the forward or horizontal direction instead of at a 45–degree angle. By having the chain come off the rear sprocket in the horizontal direction, the vertical forces on the axle are eliminated. There are a couple of ways to do this on the MT19.

One way is to move the idler sprocket forward about two feet, mount it below the center cross–members, and run the chain under this sprocket up to the transmission sprocket. In this case, the chain runs for a some distance at about the same level as the bottom of the rear sprocket. If the chain is not kept fairly tight, the chain may even droop down below the level of the rear sprocket. In this position, it probably would pick up a lot more debris, especially in high ballast or in weeds, than the current chain path.

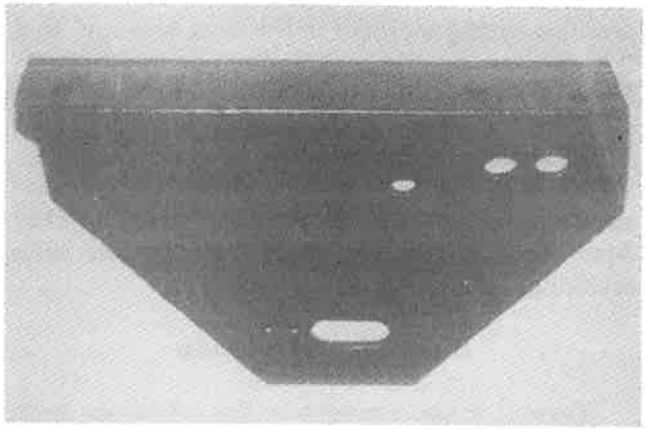
A second way is to add a second idler sprocket on a bracket such that the chain comes off the bottom of the rear sprocket nearly horizontally and travels a very short distance to the lower sprocket. The chain then goes up and over the upper sprocket and follows pretty much the original path to the transmission sprocket. The second arrangement keeps the chain at or above the bottom level of the rear sprocket for a fairly short distance so it will not have as much of a problem with picking up debris as with the first arrangement. Although the second arrangement requires a second idler sprocket, it looks like it is the best choice because it minimizes the amount of chain below the frame of the car.

The Dual Idler Bracket

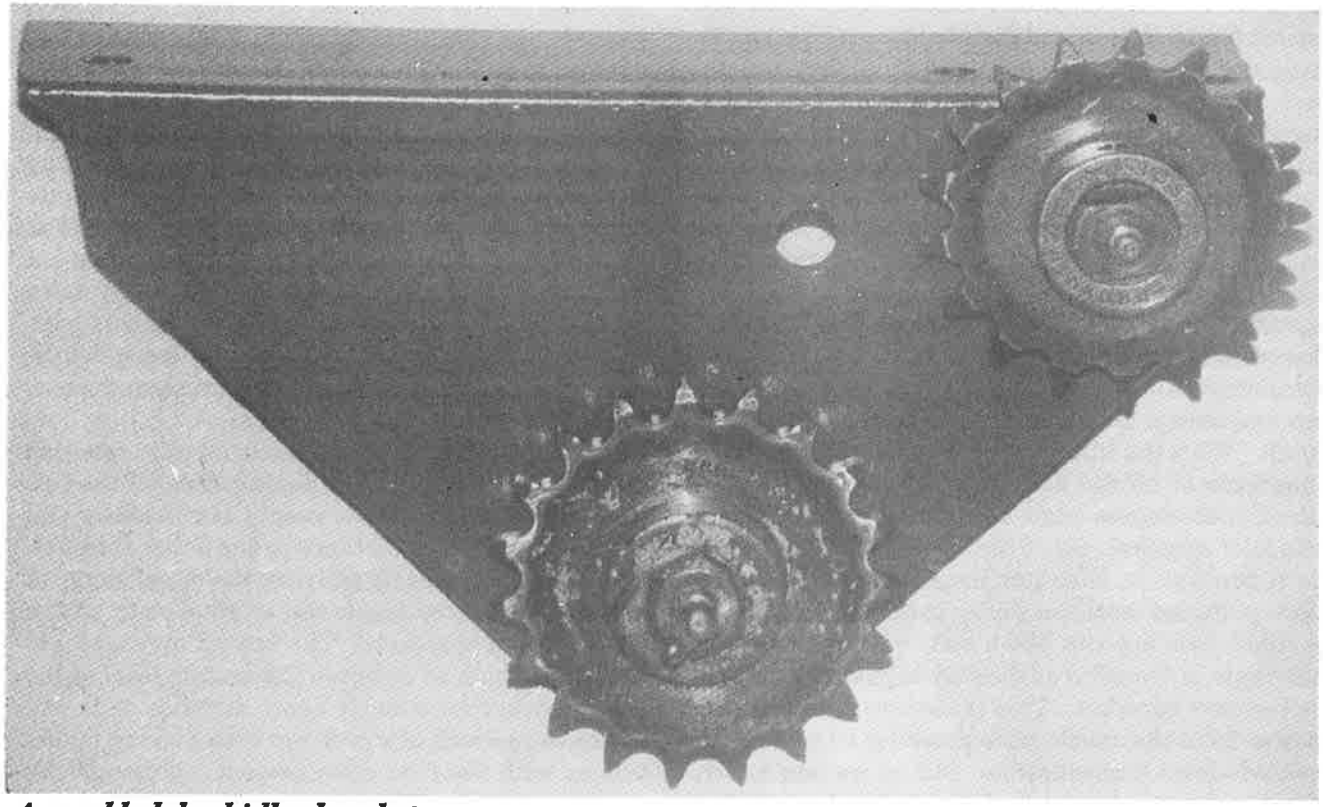
To test this idea out, I made a bracket for the dual idler sprocket arrangement using 3" by 6" by 5/16" angle iron. (Please see the picture of this bracket with the idler sprockets mounted on it.) In order to adjust for chain wear, the lower sprocket hole is elongated by 1", and for the upper sprocket there are two spaced holes 1" apart. (Please see the scale drawing and the picture of the bracket.) The original idler sprocket on my MT19 has 19 teeth, and the threaded portion of the 5/8" diameter shaft is nearly 2" long. This idler shaft is installed in the



Dual idler bracket parts.



Dual idler bracket.



Assembled dual idler bracket.

lower idler slot with a heavy washer on both sides of the elongated slot along with a lock washer and nut to secure it. A new 3/4" Browning tightener shaft and a 17–tooth idler sprocket are installed in one of the two fixed mounting holes for the upper idler sprocket.

Mounting the Dual Idler Bracket

In order to mount this bracket on the MT19 frame member, it is necessary to move the center bearing support arm to the rear as recommended by Fairmont. This involves pulling the axle nearly half way out, so the center bearing arm can be slid off the axle and turned around and slid back onto the axle. Also, two new holes need to be drilled in the frame member behind the axle to support the center bearing arm. The front hole in the frame member that was used for the support arm can now be used for the dual idler bracket. To support the front of the dual idler bracket, a new hole needs to be drilled in the frame member—through the battery box bracket in some cars—near the front of the dual idler bracket. This bolt will see a vertical force when the lower chain is under tension, so if the hole is not drilled through the battery box bracket, a large washer should be placed on top of the frame member to spread out the force from the head of this bolt to the aluminum frame member. Once the bracket is mounted to the car with its two idler sprockets, the chain from the rear sprocket is routed under the lower sprocket and then up and over the upper

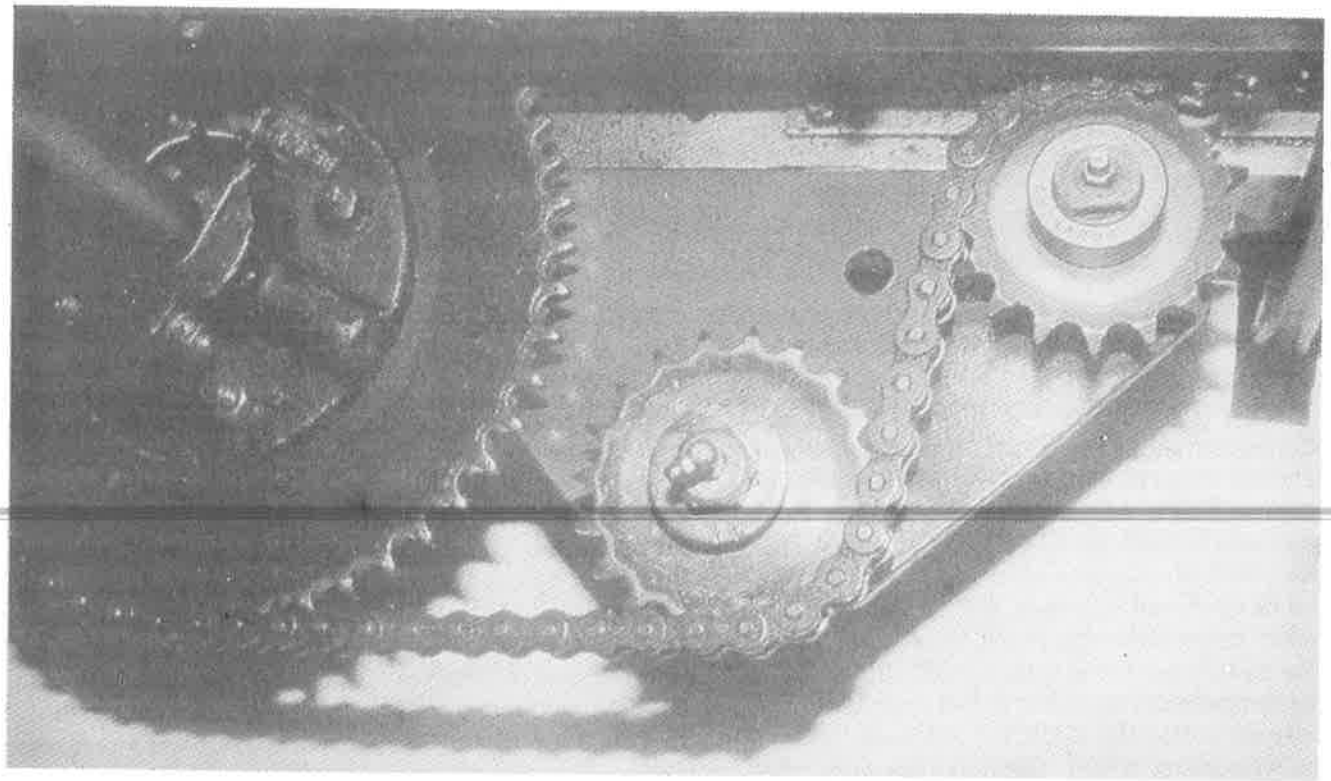
sprocket. I had to add three links to the original drive chain to accommodate the slightly longer path length of the dual idler drive chain. (Please see the picture of the dual idler installed in the MT19.) The chain is then tensioned by moving the lower idler sprocket forward in its elongated slot and then tightening the nut on the idler shaft securely to keep the shaft from slipping. Notice that with the dual idler installed, the chain can be tensioned so there is minimal slack. This is VERY different from the instructions for tightening the chain on a standard MT19. On the standard MT19 chain drive, it is very important to leave slack in the chain, even with the axle all the way down (no weight on the rear axle) to avoid putting additional vertical forces on the axle from the chain. This is another problem caused by having the chain come off the rear sprocket at a 45–degree angle instead of horizontally. As the axle moves up and down, the chain path length changes, which means the chain tension should be adjusted with all the weight off of the rear axle so the chain path length is at its maximum. If the chain is adjusted with the weight of the car on the rear axle, then the chain itself will bend the axle every time the car bounces up and weight on the rear axle is reduced. With the dual idler, the chain path length is nearly constant as the axle goes up and down, and since there are no vertical forces on the axle from the chain, the chain can be adjusted with minimal slack.

Tsubaki recommends chains that frequently change direction should be adjusted with a slack of about 2% of the span. The chain in a motorcar definitely changes direction frequently, constantly going between slight acceleration and deceleration on some grades. One way to set the chain tension is to put a three–foot straight edge on top of the chain and measure the amount the chain drops below the straight edge. Put the car up on jacks, take the brake off and put the transmission in neutral, so the chain is free to move. Make sure the upper chain guide does not touch the bottom of the chain. Adjust the tension such that the chain is about 3/8" below the straight edge just using the weight of the chain itself. Once the chain tension is set, adjust the upper chain guide so it is about 1/8" below the chain.

The Results

I installed the dual idler chain drive on my open MT19 and ran the car for about 48 miles at Folsom. Before this run, I doubled the sensitivity of the axle bending measurement system so each dot indicated 1/32" of bending of the rear axle. What I found on this run during normal operation is the axle bends both up and down about +/- 1/32" most of the time, and occasionally +/- 1/16". In 1st gear reverse acceleration up a slight grade (right at the limit of traction with two people in the car) there was no particular systematic bending. Again +/- 1/32" bend-

(continued on page 4)



Dual idler Bracket assembly on MT19.

Accidents Waiting to Happen?

by Tom Norman

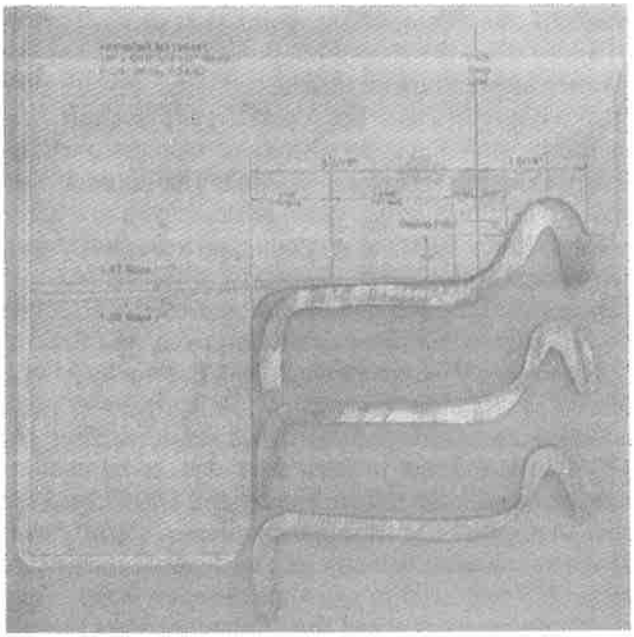
Excursion coordinators notify me, as the NARCOA Insurance Administrator, of accidents that occur which might result in an insurance claim. Recently two incidents have come to my attention that I feel should be discussed with our membership.

Flange Separation

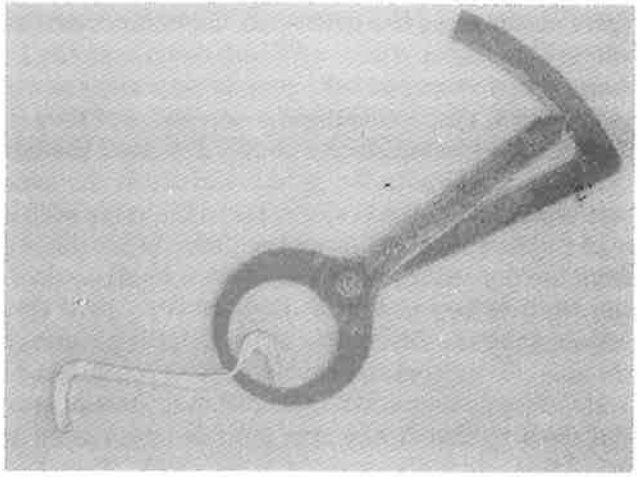
The first incident involved a motorcar in which the flange or rim of the wheel separated from the wheel tread. The resulting derailment also caused the axle to break at the wheel bearing, as can be seen in the attached photo.

Flange separation from 16" demountable wheel due to flange wear.

This is not the first incident of flange separation that I've observed. The basic reason for failure is excessive wear of the wheel. Generally, wheel running surface thickness should not be less than half the original wheel thickness. New 16" demountable wheels today are 5/16" thick, and should be replaced when worn to 5/32". At car inspections before excursions, most inspectors will have a wheel thickness gauge available to check for wheel wear. A gauge is available from Harbor Freight Tools (www. harborfreight.com), item #38238, caliper measuring tool for $3.99 plus s&h. From my experience, wheel wear occurs mainly at the flange/tread interface, not on the tread itself. I have sectioned three 16" wheels to help illustrate this wear. In the following photo, the top section is a relatively new wheel, showing good thickness throughout. The middle section is from my MT19B after 11,027 miles on new 5/16" wheels. Note that the thickness at the flange/tread interface is just over 1/8". The bottom section is from my Kalamazoo 27A, showing severe wear exceeding the NARCOA rulebook limits. Note that the tread thickness shows negligible wear even on the Kalamazoo wheel. Compare the worn wheel section profiles with the wheel profile drawing. It is easy to see the wear. It shows as a "squaring" of the flange rather than the smooth curves of the original profile.



Wheel profile drawing and cross sections of 16" demountable wheels. Note flange wear on bottom two sections.

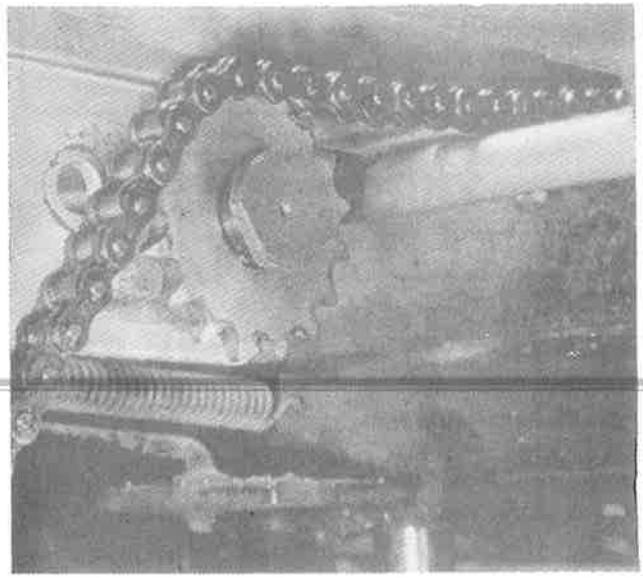


Method of measuring flange/tread interface with wheel thickness gauge.

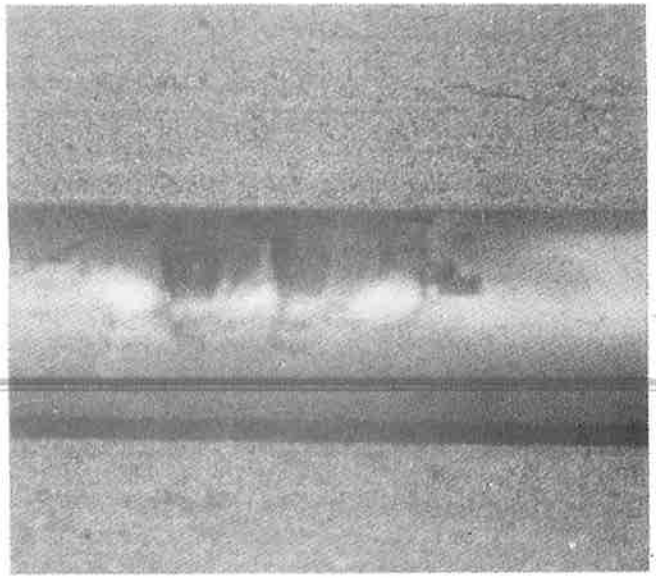
The lesson here is that wheel thickness should also be measured at the flange/tread interface as illustrated in this photo. Several things can give a false thickness reading. Any mastic or sound proof coating applied to the wheel will give a false reading. Fairmont wheels with these coatings normally have a small portion left bare for thickness measurement. Measure at those locations. Some wheels have a rubber hose stuffed in the flange for sound deadening. Remove the hose then take the thickness reading. If you find any wheel thickness readings less than 1/8", replace them before your next excursion.

Brake Shaft Wear

Another accident waiting to happen involves the brake shafts on MT14 and MT19 chain–drive cars. The brake shaft is made from 7/8" OD steel tubing with a 1/16" wall. The drive chain is guided up and over the brake shaft by the idler sprocket. Poor maintenance, excessive chain slack, and/or elongation of the chain due to wear, allows the chain to rub on the brake shaft. See the following photo. We have had



MT19 chain path showing chain slack, which can lead to brake shaft wear and failure.



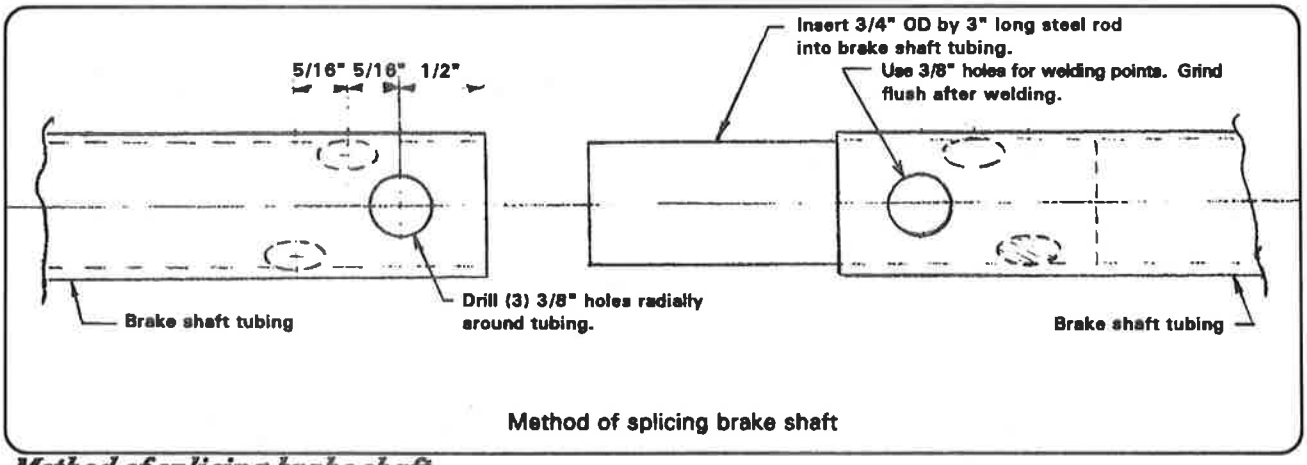
Brake shaft worn nearly half way through. Note twist and bend in shaft from brake application.

incidents in which the brake shaft tubing is cut through by the chain, to the point that during brake application the shaft shears in two. The resulting loss of brake effort provides a challenging problem to the operator! Hopefully there is dry track and plenty of distance between motorcars.

The easiest way to check for brake shaft wear is to feel with your finger the top of the brake shaft, just below the chain. The shaft should be round and smooth, but if you feel any roughness or wear, remove the drive chain, wipe the grease off the brake shaft, and observe the shaft surface. Remove the housing seat assembly (engine cover) and look down onto the brake shaft. If the original paint is intact you are home free. If it is worn you will need to determine to what extent. In my opinion, if it has cut through the wall of the shaft, and you can see a hole into the tube it must be repaired.

How do you repair the shaft? I've used the following method to splice brake shafts. See the attached drawing. First note the position of the brake arm ends. Once you cut the shaft in two, you will need to reassemble with the brake arms in the same position. I place the entire brake shaft on a flat surface, with brake end arms also flat on the floor. I then use a protractor to measure the angle of the brake lever plate from the flat surface. I actually cut a small block of wood to use as a guide to maintain this angle. Then cut the shaft in two at the chain wear site. Drill three 3/8" diameter holes in each tube end, to be used as welding points. Drill these holes radially around the tube, the first hole 1/2" in, the second 13/16", and the third 1-1/8" in from the tube end. Use a 3/4" hand reamer to prepare the tubing ends. Ream slightly over 1-1/2" deep so that a 3/4" OD by 3" long piece of steel rod can be inserted halfway into each shaft end. Align the shaft so that brake arm ends are positioned correctly. Weld the rod to the shaft at each hole. Then grind flush with the outside of the shaft. This is essentially the same method that Fairmont uses to weld the brake shaft ends to the brake shaft.

After reinstalling the brake shaft, be sure you eliminate the original problem causing the shaft wear. If your chain has stretched, put on a new chain. Maintain the correct chain tension. Most chain manufacturers recommend chain slack to be 4% of the span. One even suggests 2% slack for variable speed or reversing drives. You don't want it too tight, but too loose will cut the brake shaft lever.



Method of splicing brake shaft.

Winterizing a Fairmont 2 cycle Speeder

By Dick Forde

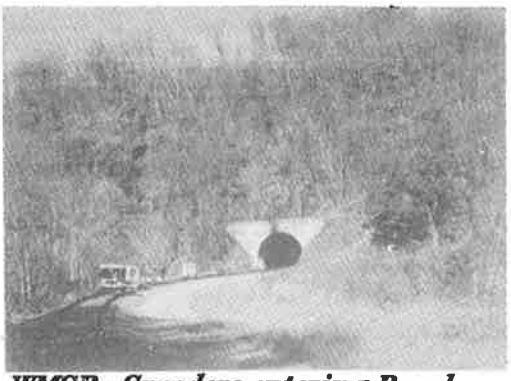
This article contains the steps that I take to prepare my Fairmont M14 for storage over the winter. The thought that is foremost in my mind while doing this is being able to get it running again in the spring with minimal effort.

A few facts to consider before we start: I live in New Hampshire where we have snow from November through March; I have an open speeder, just a windshield and a roof; I leave the speeder on its trailer; the speeder remains outside all winter.

- √ Starting on the first of October, add fuel stabilizer to each gallon of fuel that you get for the speeder. This insures that all of the fuel that you have when you finally winterize will be stabilized.
- √ After the last run of the season, thoroughly wash all of the season's dirt and grime off of the speeder, and let it dry completely.
- √ Open (or remove) the drain plug from the engines water jacket to completely empty the engine and water hopper. Then close the drain and add two quarts of 50/50 antifreeze/water mixture; this insures that any leftover water in the engine will not freeze and crack anything.
- √ Remove the spark plug. Into the spark plug hole, squirt 2-3 squirts of Mystery Oil. Then give the engine a couple of cranks to spread the oil throughout the cylinder. Replace the spark plug to seal up the hole.
- √ Thoroughly grease all grease fittings.
- √ Oil all linkage points on the brakes, belt tensioner, spark linkage, and throttle linkage.
- √ Drain the engine crankcase, using the drain petcock; close the petcock.
- √ Remove the battery and bring it indoors; if discharged and left out, it will freeze. This is also a good time to clean the battery cable ends with a baking soda solution to get rid of all of the crud that has built up.
- √ Remove the spark coil and bring it in. Accumulated moisture may destroy it.
- √ Remove the first aid kit and fire extinguisher and bring them inside; just because.
- √ Remove spare water jugs. I use gallon milk jugs, so I just empty them and discard the jugs; there will be more available in the spring.
- √ Completely fill the fuel tank with fresh fuel (remember that it contains stabilizer, from above). This will eliminate water condensation in the tank, which can cause rust inside the tank. Check to insure that the fuel shut–off at the tank is in the off position. Remove and empty the fuel bowl at the tank; wipe it clean and replace it.
- √ Leave the spare gas cans in the speeder. The fuel in them is stabilized so it will do no harm for them to stay outside. (Would you want to keep them in your basement?)
- √ Cover the speeder with a tarp and secure with bungee cords. Make sure that it is secure enough that the winter wind does not blow it off. Leave a little room at the bottom for some ventilation; if it was air tight, mildew might develop.
- √ Finally, place reflectors around the trailer so that an overly aggressive snow plow will not snag the trailer tongue or a fender.

Now, go inside, have a hot chocolate and watch the fireplace crackle for the next few months with full knowledge that your speeder will start right up in the spring.

Gettysburg Railroad - Toilet stop at railroad station in Gardners, Pennsylvania. (11/4/00)



WMSR - Speeders entering Brush Tunnel. (11/5/00)

WMSR - Crossing Potomac River bridge from Ridgely, West Virginia, to Cumberland, Maryland. (11/5/00)

WMSR - Speeders stop on mountain to enjoy view. (11/5/00)

Gettysburg Railroad
Western Maryland
Scenic Railroad

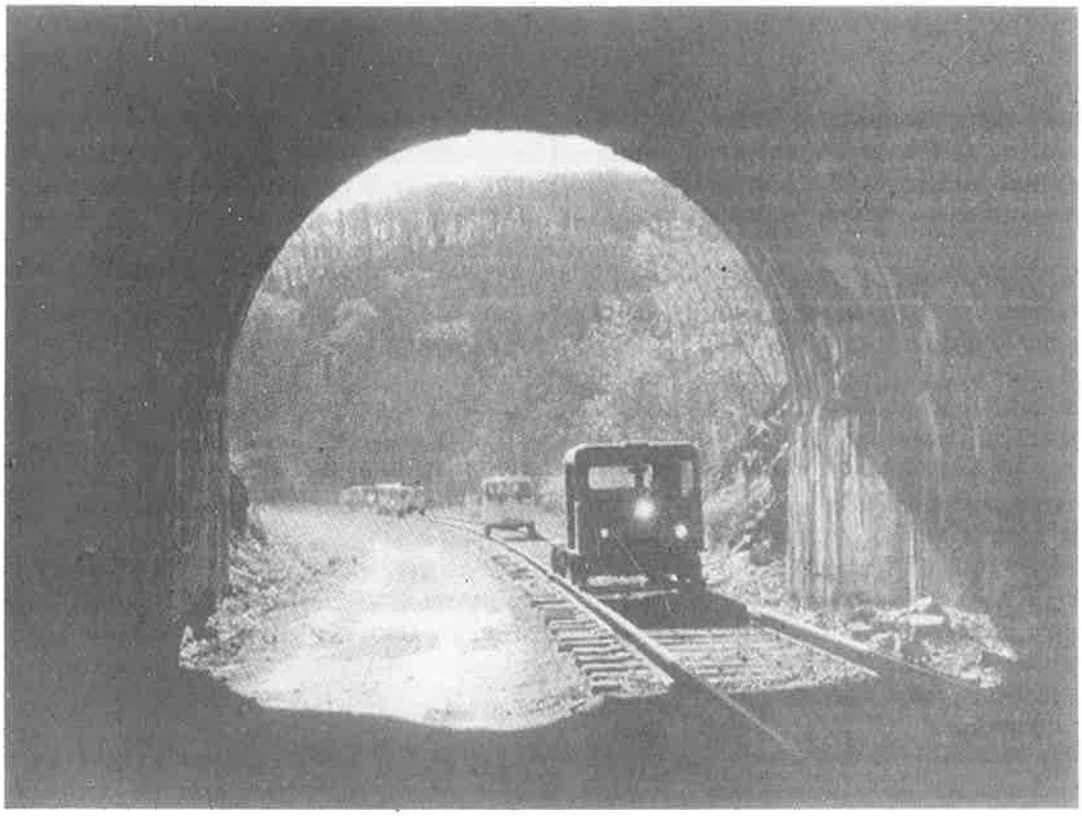
Photos by
Gary Shrey

Western Maryland Scenic Railroad - Speeders are turned on the turntable at Frostburg, Maryland. (11/5/00)

WMSR - Speeders round Helmstetters Curve on way up the mountain. (11/5/00)

A fine variety of motorcars participated in the trip; shown here as the drivers take a "Kodak moment" on the way up the hill. (11/5/00)

Beautiful views abound from Helmsetter's Horseshoe Curve, including this view of farmland and the brilliant fall foliage. (11/5/00)



A Fairmont MT14 and restored Kalamazoo trailer (driven and owned by Jaime Samuell of Gambier, OH) leads the pack through the Brush Tunnel. (11/5/00)

Western Maryland Scenic Railroad

Photos by Jaimie Samuell

A brief warming stop for coffee and photographs at the restored Cumberland, Maryland Station. (11/5/00)

MOTOR CARS FOR RAILROAD WORK

Transcribed from *Railway World* of June 24, 1910

(Ed. Note: *Railway World* is available to me on microfilm at the University of Montana. Unfortunately, the film quality makes impossible to include the accompanying drawings with this transcription.)

In the announcements frequently made of late that this, that or the other railroad had adopted motor cars for the use of its supervisors of tracks or maintenance of way departments one is likely to lose sight of the fact that motor cars for railroad work service have been long and successfully used and are regarded by some of the foremost of American roads as the standard of merit for such equipment and as practically indispensable. One concern, Fairbanks Morse and Company, which has been making an exhibit at the railway conventions at Atlantic City has been prominent in the development of these cars to their present high state of efficiency and has some five thousand cars of its make in actual service.

The motor car for railroad work service is to a certain extent the glorified edition of the hand car or the walking beam car laboriously pumped over the road by the section hands. It has become a business necessity and has justified itself as an economic proposition. Railroads are quick to adopt motor cars when it is realized that by their use work can be done better and at less expense than without them. One car, "Peggy," has been in service on the Seaboard Air Line since 1900. In 1903 a bridge inspector took it for his personal use and has been averaging about 14,000 miles a year with it since, and it bids fair to be serviceable for years to come. Retaining the general appearance of the work cars, the motor cars have been made as simple as possible. They are built to any gauge desired, from 24 inches up, and have the same demountable feature which distinguished the hand cars, so that they may be loaded into baggage or freight cars if desired. They are of one or two cylinders, two or four cycle, developing from 5 to 12 horse power and capable generally of any speed desired up to 30 miles an hour.

The economical advantages following the use of motor cars in this work include longer sections and greater efficiency of the section gangs, as the work can be accomplished with a smaller number of foremen, the force is on the job earlier in the morning and later in the evening. The cars are light enough to be easily lifted off the track out of the way of trains and powerful enough to haul a push car with supplies. A 370–pound car, developing five or six horse power under test has traveled 50 miles per gallon of gasoline and made 45 miles per hour. One patter of these cars used in section work has the engine equipped with a reversing device which enables it to run in either direction, clockwise or counter clockwise, giving the car the same speed either forward or backward. Two of these cars are used in looking after 30 miles of track on one road, doing work formerly handled by four crews with hand cars. The time saved in this particular instance in 110 minutes per man per day. The four crews were combined into two and two foremen were dropped.

The No. 26 car, shown in the cut is a new type designed for section and bridge gangs. [Poor reproduction quality made it impossible to include the original engravings with this transcription.] It is constructed along the lines of the utmost simplicity and is intended to be trouble proof and fool proof. Its engine is a two–cylinder, two cycle air–cooled motor with no valves, valve mechanical cams, springs, sprockets or chain. The engine is directly connected to the car axle and the crank case in enclosed, making it dustproof. The bottom view shows the extreme simplicity of this car which is offered as combining all of the essentials of a successful motor for railroad use.

The No. 27 car also shown, is another new product of this company. It is similar to No. 26 so far as power is concerned, but is equipped with walking beam and throw out gear, the emergency equipment making sure that the car is never out of commission.

Fairbanks, Morse and Company have also brought out for several years past gasoline inspection cars and they are operating under climatic extremes represent by Alaska on one hand and Australia on the other. These cars may seat from two to nine persons, and the large cars are carried on semi–elliptic springs, making an easy riding vehicle, and are provided with canopy top and curtain protection from inclement weather. A nine passenger car used by an engineer for inspection purposes and a season run of 6,587 miles showed 21.5 miles per gallon of gasoline and a total cost of the car per 100 miles run of 99.7 cents.

From the inspection car to the gasoline car for passenger service was a natural transition, and Messrs. Fairbanks, Morse and Company have had cars in successful passenger service for the past two

(continued inside back cover)

I didn't have a clue what I was getting myself into!

by Cheryl Jones

This summer 50 people in 25 rail cars rolled across British Columbia. They knew what they were getting into. I didn't. You see, I'm not a train buff. I didn't know that a rail car was a speeder and that a speeder didn't speed at all. I didn't know that you may have to wear outdoor clothes inside since speeder sides and doors are optional. I didn't know that the rails talked to engineers, that engineers ask for protection, and in British Columbia they need protection from Grizzlies. I didn't know that train genealogy was a science.

However, I'm always game for a good adventure, and Bill Stringfellow knows that. Bill and I have been friends for over 30 years. We were cavers together in our university caving club, worked on other projects together in the larger caving community as the years passed by, and have stayed in touch with friends from that era long ago. We have a history. So I trust Bill's judgment on important things like adventures, chocolate, and fireworks (those are other stories). I also trust him to be able to fix all things mechanical, have a good sense of safety, and hang on to his easy going nature.

So when I received an email from Bill in January, asking me to join him on a little 1,600–mile jaunt through the wilderness in a rail car, I didn't pause to think before hitting "reply" to write "fer shure!" Now, realize I didn't have a clue what I was getting myself into, but over the next few months the nitty gritty details began to emerge: the size of the railcars; the lack of sides; no space for hatboxes and steamer trunks; no reclining seats; 25 mph for 10 days; the need for ear protection; pit stops in grizzly country. So on a bright Saturday afternoon, I rocked up at a motel in North Vancouver with railroad–stripe overalls in my backpack and the buzz of the unknown in my veins. There in the parking lot, I first lay eyes on the little rail cars, looking like toys, perched on trailers behind macho pick–up trucks and palaces on wheels. (I was to learn that they are indeed boys' toys!) The adventure had begun!

Over the next ten days, I learned more than I ever thought I wanted to know about the way the railroad, trains, engines, switches and tracks operate and are constructed. We rode the equivalent of over half way across the United States in the little open–sided car, traveling up to 257 miles a day. The rails took us from North Vancouver north to Dawson Creek, back down and west to Mackenzie, east to Tumbler Ridge, then west to the main line and south back to North Vancouver. No, I'd never heard of most of these places either.

The speeder is four feet or less long and about five and a half feet wide—just enough room inside for two seats with the engine nestled between. The seats, to my relief, were well cushioned and pretty comfortable, and Bill had installed seat belts, figuring on my lapses of concentration. I had plenty of legroom (which is saying something), a bit of dashboard to prop my feet on, and certainly plenty of fresh air. The warmth coming from the engine was appreciated in the chilly Canadian mornings and evenings.

What a team! Bill took care of the greasy jobs of refueling, changing plugs and points, greasing joints under the car, and what all. There always seemed to be something to do—I suspect the opportunity to tinker and mess around is what makes a speeder so appealing (to boys!) I was assigned more lady–like duties, such as washing the windows (covered with a combination of bugs and black exhaust), spraying the chain with oil as Bill pushed the train along the tracks, making PB&J sandwiches, opening the chips and cokes, and making runs to get in a new supply of food (and donuts for Bill) at the rare times stores were available where we would stop. I also had flag duty: holding a bright orange signal flag out the doorway to indicate to cars behind us grade crossings, track changes, speed reduction, obstacle on the rails, or other changes in the normal routine of rolling along. However it took several days to become proficient in this last task, since I was too involved in looking at the scenery and chatting with Bill to notice grade crossings. I only dropped the flag out the door once.

Every day was a long one (and I thought I was going on a holiday!) We spent 9-12 hours on the tracks, since we often had to pull off on sidings and wait for freight or passenger trains to pass, or to pause now and then to repair broken down cars. (I think the guys would pray for a wee breakdown by someone every day, just for the fun of the repair, the grease, and the opportunity to discuss that and "other repairs I have known!" It was a daily bonding routine.) We changed the plugs (all two of them) once, and the points another time, after smoking and coughing along for a few hours, as darkness fell across the wilderness. Bill really did well babying and coaxing the little sick speeder up the long hills

as night fell on the wilderness, on this, our longest, day. We made it to our destination (Dawson Creek) just fine, even with a broken–down speeder in tow. Sometimes the car would get into a mood and not start, but no big deal. Bill just pushed it down the track and I popped the clutch!

At times we had a train roaring towards us, and often one chasing us from behind. Look out! This is when the conversations on the short wave became interesting! Our BC Rail engineers would figure out where we could pull off on a siding, or would negotiate with the other train to pull off for us ("We're rail inspectors, and really need to have priority.") The boys loved seeing the trains pass while our line of little yellow cars sat on sidings or in a yard, looking like toys. Make no mistake, I did as well—but certainly not with the same intensity and enthusiasm. For the guys it seemed nearly an orgasmic experience. They set up cameras, elbowed for the best viewing positions, and then talked excitedly about the model of engine, other places they'd seen that engine type, its genealogy, its beauty, its power, the changes other railroads have made to a similar engine, the number of cars in the train, that time last year when some engine passed by, and on and on. All I could add was, "Yeah, cool train."

Two BC Rail engineers traveled with us, and Bill and I could listen to the radio chatter between the trains, and between trains and the track scheduler, on our headsets. This was great! Any short wave discussion would interrupt our nearly constant conversation over the headsets. The computer voice of the rail detectors would also talk to us, advising of an "integrity failure" (I took this personally), a "runaway train," or "no defects." Our little cars with short wheelbases confused the sensors when we passed over them, and the detectors responded as if they were tracking a full–sized train.

We had rain, sun, warm and cold, and I wore my railroad–stripe overalls, denim cap, and long underwear top every day, and kept rain gear, fleece, gloves, warm hat and wind pants at hand. Getting in and out of the extra clothing at 30 mph in the little railroad car without losing any out the open side or simply falling out of the car was somewhat tricky. Days usually began overcast, chilly and rainy, then the sun came out in the afternoon, then the clouds returned in the evening. There was fantastic scenery, ever changing: fjord coast; mountain passes; successive forest types as we'd climb and descend; snow–capped mountains with bald rock peaks; high plateaus of birches; lakes; beaver, moose and lush green pastures with horses and cattle; coal strip mines; clear cutting galore, scarring mountainsides; saw mills and wood processing plants like I couldn't believe, with more lumber and logs stacked up than I ever imagined could exist; a sulfur plant (extracting the mineral from natural gas) with a mountain of bright yellow pellets next to the tracks; huge basalt columns and blocks, (cave–infested) limestone and long tunnels; friendly and fun Canadians (eh?); gorges with roaring rivers, clear mountain streams and waterfalls; large lakes and vast areas of smaller lakes and marshes (and large beaver condos). The cars in the front (a mile or so away) would see bears on or along the tracks. The BC engineer carried a shotgun to protect us during pit stops in grizzly country (gave the phrase "covering our, uh, bums" a whole new meaning!) The tracks were lined with a profusion of brightly colored wild flowers (purple lupine, white cow parsnip, pink Indian paint brush, yellow and white daisies, pink columbine and others). And always those shiny rails stretched out in front of us.

Bill could sniff an upcoming tunnel miles away, and then kept track of the number we traveled through. The long ones, towards the end of the trip, were eagerly awaited by the whole group and discussed long afterwards. Driving under the waterfalls coming out of the ceilings of those four– and five– mile long tunnels was a good rush (remember our car has open sides), and seeing the caves and streams the tunnel had cut through was fascinating. It took 10-13 minutes for us to go through these long tunnels, and the darkness seemed to swallow up our headlights. The air was very cold. On the way back to Vancouver, Bill remembered the location of each of the 19 tunnels, and announced its exact location long before I could see it. Amazing! The sign of a true railroad aficionado for sure. "Single track mind" has taken on a whole new meaning after this trip!

We'd arrive at the small towns, and busses (or in one little, one–horse town, limos) met us at the tracks to take us to motels in town. It'd be late, and we'd be tired and dirty. Stores and most of the restaurants would be closed. (True roll–up–the–sidewalks–at–5 P.M. towns). The white washcloth turned black when I wiped it across my face at the end of the day (what do my lungs look like? Yikes! The last time this happened was in Bombay!) We'd rush to a late dinner or order a pizza, shower, and then crash. Up very early the next morning for a 6:30 or 7 A.M. bus to the tracks. Then came the futzing about as cars were packed, repaired, oiled, greased, gassed, caressed, discussed and generally fiddled with. The guys were in their glory getting greasy the first thing in the morning.

The group of people we traveled with was an interesting, laid back lot, and came from a wide range of backgrounds and professions. Surprisingly, at the back side of middle age, Bill and I were the youngest of the lot. Every day I was asked, "So how is it going? Still having fun?" Amazement was al-

ways expressed that this marathon was my first speeder trip, and I hadn't bailed out yet. Bill was interviewed regularly along the lines of "How did you convince her to come along?"

Many had done quite a bit of work on their speeders, including some modifications for extra comfort and convenience. One very organized compatriot took every opportunity to set up a camp stove on the floor of his speeder to cook a grilled peanut butter sandwich. Another had a laptop computer on a dashboard he'd built, and followed our route with a GPS program. Like we were going to get lost? Not know where we are, perhaps? Did we take the wrong track back there?

Our improvements, aside from seat belts, consisted of two jerry cans of gas and a tool kit in a box on the back of the car, an ice chest across the engine cover between our seats, a mystery box of stuff at Bill's feet, and bungy cords to hold duffel bags against the dash and across the engine. The food bag was stuffed under my seat. Out of the mystery box would come all sorts of important items just at the right moment—emergency pretzels, pop tarts, and soft drinks, grease remover, tape, wire and toilet paper.

Yup, it was an unusual adventure, fer shure, and a great time! Learning about the fascinating world of railroads immersed in the world of railroad buffs, seeing the surprises the wilderness holds that aren't visible from a road, the camaraderie of the group, and the adventure of not knowing what was just up around the bend or over the mountain were real highlights. I've tried to share the experience with others, but the blur of photos taken at 30 mph, or the great view of the canyon or bridge behind the long swoosh of a tree passing by just doesn't do the trip justice. The great photos of the large trains passing by ours are too unbelievable to be comprehended. So I've given up explaining the trip to those who remained in the real world in July and justifying my insanity. Would I do it again? Sure! That is if the scenery can match or surpass that of British Columbia! Is it for everyone? Probably not. Remember, I enjoy going caving also.

Rick Leach and his ST-2AA on Wilderness Tours' BC run.

Fourth Excursion on the TSBY

by Jeremy Winkworth

In 1997, NARCOA members first rode on the Tuscola & Saginaw Bay Railway (TSBY) northwards from Cadillac to Kalkaska, both in Michigan, on what was once the Grand Rapids and Indiana Railroad mainline. In 1998 we rode southeast from Cadillac along the ex–Ann Arbor Railroad to Clare, then the following year we traveled west on the ex–Ann Arbor out to Yuma, where a sizable foundry sand operation ships out by rail. On September 23, 2000, a group of nine motor cars retraced our 1997 route from Cadillac to Kalkaska.

We had been scheduled to ride out to Yuma again, but track work forced a most beneficial change of destination to Kalkaska. The state of Michigan has owned the railroads going through Cadillac for many years. The first operator of the north–south route through town for Michigan was the well known Michigan Northern Railroad, followed in the late 1980s by the TSBY. The TSBY still operates as far north as Petoskey, but the days of rail service to Mackinaw City, views of the *Chief Wawatam* steaming across the straits to the Upper Peninsula and an interchange with the Soo Line ended in the mid–1980s.

September 23, 2000, excursion on the Tuscola & Saginaw Bay Railway, stopping at Manton.

When I left Kalamazoo at 6 A.M. that morning, the weather was warm, and a light rain was falling. Since the forecast for later was mixed clouds and sun but no rain, I confidently took my open M9. I got my wish—sort of. The rain did stop, but the farther north I drove, the colder it got, and by the time Cadillac was reached the temperature was about 42 degrees. By then it was too late to go back and get a car with a cab.

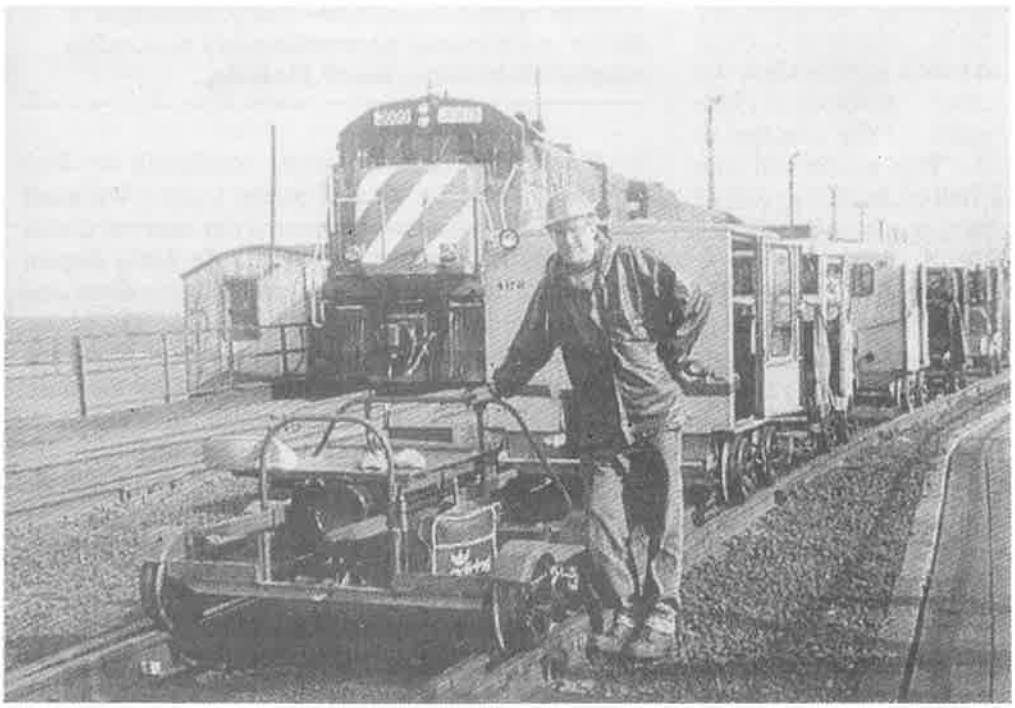
As in previous years we set on just south of the engine house. Toby Beck was our TSBY host. Tony patrolled track for the Michigan Northern back in the days when it was 10 mph all the way up to Mackinaw City (now it's a mix of 40 and 25 mph track up to Petoskey). First up was a trip through the old GR&I yard, where some of the tracks were being rehabilitated to allow the smooth passage of a planned excursion train next spring. This train will run from Ann Arbor or thereabouts right up to Petoskey every Friday, then return on Sunday. The hulk of stripped Michigan Northern GP7 No. 1604 in distinctive green and white paint scheme that we saw in the yard back in 1997 had been cut up and disposed of. Potash and plastics hopper cars were present along with various MOW equipment. Three miles north of town, sharp eyes could pick out the overgrown roadbed of the Cadillac & Lake City Railroad curving away to the east. The next seven miles to the town of Manton were through the fields and backwoods of mid–Michigan, including a stretch in the Pere Marquette State Forest.

Despite some extensive layering of clothes, I was feeling decidedly cold. When we reached Manton and stopped for a bathroom break, I hitched my car to Jim Lindholm's MT19, so I could ride in his cab for a while.

Condition of the rail and trackbed were excellent, reflecting significant investment by the state of Michigan during the '90s and an effective maintenance program. In fact I don't recall seeing any weeds at all on the main or hitting any low joints.

Six miles north of Manton we crossed a substantial bridge over the Manistee River. Just past this bridge was Walton Junction, where the 25–mile–long secondary to Traverse City angled off to the West via a full wye. Alas, the diminutive signal cabin here (disused but still standing in 1997) was gone. The route from Cadillac is used daily by the TSBY. The largest amount of traffic—about 120 cars a week—goes to a cement distributor north of Kalkaska. There is also a good sized plastics company at Petoskey that gets four or five cars a week. At Traverse City the railroad does business with a scrap yard and a cherry processing plant.

North of the junction, we rode through more northern forest dotted with vacation homes and then stopped briefly at Fife Lake, a clear and most attractive lake. The stop was brief was that we discovered the ice cream store had closed! We motored the last 15 miles or so to Kalkaska, mostly alongside US 131, which is the main road for vacationers headed north into Michigan's Upper Peninsula. Being close to the front of the convoy I did see a couple of deer leap across the track ahead of the TSBY hy–rail.



Jeremy Winkworth and his open M9, one of nine cars running behind TSBY host Toby Beck.

At Kalkaska we turned the cars and after a quick lunch break at the "golden arches," started back for Cadillac. The weather had warmed enough to make riding an open car a pleasure, with the added benefit that it was cool enough to eliminate the bugs that make open car owners feel so close to nature. I noticed a number of folks taking pictures or video of us going through. Perhaps in the small communities of mid–Michigan we will be talked about for some time to come when the railroad is mentioned.

There were a few breakdowns, and at one point it looked like Dave Stroebe might have to simultaneously push and pull cars (very slowly) with his MT14. This was avoided, however, by the discovery that the plug wire had fallen off on the M19AA in front of him.

One of the pleasures of riding an open car is that you feel like you're in the scenery, not just a passive observer watching it from within a cab. Never was this truer than rolling southwards through the woods and fields of mid–Michigan on this sunny September afternoon. The mileposts drifted by, and before we knew it, Toby was flagging us across the main road just north of the Cadillac yard. We were off the rails by 5:30 P.M., leaving enough time for folks to have some dinner and make it home that night.

Everyone thoroughly enjoyed this excursion, especially the Mitzel family, who have never missed a TSBY trip yet, even though it's a six–hour drive from their home in Illinois. Mike told me a few days later that five–year–old Marcus's final words after being put into bed that night were, "When can we ride again?"

A big thanks to Toby for escorting us and to the TSBY for allowing us to ride on their rails again. They've given us four excursions totaling 340 miles in the last four years. In today's era of distant mega–railroad corporations, TSBY remains a friendly face to NARCOA members who appreciate a premier ride in Michigan.

First Iowa Division's Excursion on the Dakota Southern Railroad

by Gary Holzinger

These featured photos were taken during a week of preparation for a First Iowa Division ride in South Dakota on an unused portion of the Dakota Southern Railroad, from Kadoka to a washout near the small, advertised ghost town of Oakaton, South Dakota.

This ex–Milwaukee Road line is now owned by the state of South Dakota and is leased to the Dakota Southern. This line was an extension of a line that had previously only reached the east bank of the mighty Missouri at Chamberlain, South Dakota. In 1906 a bridge to cross the Missouri was begun and concurrently 65 –pound rail was laid from the west bank of the Missouri river through the Badlands into Rapid City, which became the end of the line. The 84 miles of rail from Kadoka to Caputa (near Rapid City) had not seen rail service since the Milwaukee Road's retrenchment in March of 1980, and miraculously it survived until the summer of 1998 when it was removed. This scenic rail line through the South Dakota Badlands had provided the First lowa Division with many excellent rides until its demise.

The Dakota Southern began operations on their leased rail from Mitchell to Chamberlain during May of 1987. The portion from Chamberlain through Murdo to Kadoka was reopened in 1988. The Dakota Southern ceased operations on the 46 miles from Murdo to Kadoka during 1995. Today this unused portion of the line remains pretty much intact, except for a major washout near Oakaton.

The First lowa Division had originally scheduled with another railroad for a September 2 ride, which was subsequently cancelled. This left the September 2 date open. With the blessings of the Dakota Southern, three individuals volunteered one week of their time to open the Kadoka to near–Oakaton segment. This segment is approximately 35 miles long with many public and private crossings. The maintenance team mission was to clear away five years of accumulated dirt, rock and gumbo on crossings, trim back brush and trees, fix right–of–way fence and build a motorcar turnaround near the washout, which was three miles from the closest crossing.

The First lowa Division paid the Dakota Southern to mow the line from Kadoka to the washout. The railroad did an excellent job by actually mowing it twice, once in each direction, which was completed on Sunday, August 27.

Shades of the Badlands—Gary Holzinger's MT14 eastbound, approximately two miles west of Belvidere, South Dakota.

The maintenance team consisted of Jim Phinney, Jerry Lesko and yours truly. We used Kadoka as home base and started our eastward trek in earnest on Sunday, August 27, in 100+ degree "dry" heat. It took us all afternoon just to clear one main gravel crossing down to the planks. The crossing we chose was heavily used by traffic to and from a large grain elevator. Needless to say, by the time we were done with the first crossing, we were wondering what we had gotten ourselves into.

Monday, the second day saw the same 100+ temperatures but with a strong breeze, which the Dakotas are known for. In the dry South Dakota heat,

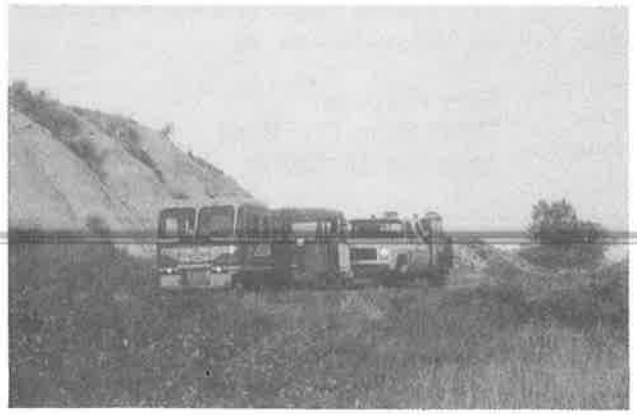
The stockyards in Belvidere can be seen here, behind the switch stand at the east switch.

during the course of a week we drank several large containers of water and Gatorade each day, but amazingly we never did sweat!

After cleaning the first three gravel crossings in Kadoka, we decided for convenience, to use Jerry Lesko's ex–C&NW, crewcab, utility box, hy–rail

Gary at the east switch in Stamford, South Dakota.

pickup to accommodate our assortment of hard hats, picks, shovels, brooms, weed whacker, food and drink. The motorcars remained on the trailer. Monday we surprised ourselves by clearing the remaining four crossings in Kadoka plus several farm and county road crossings on the line to Belvidere, ten miles to the east. Along the way we encountered several makeshift fences which ranchers had erected so their livestock could graze the right–of–way. We were able to talk to all of the ranchers and let them know of the impending motorcar run on Saturday. They were very cooperative and said we could remove the fences after they had a chance to



The work crew, westbound, at shades of the Badlands, approximately two miles west of Belvidere.

relocate their livestock. The 100–foot right–of–way, which was grazed, was like park in many areas.

Tuesday was another hot day, and we soon found that we needed to enlist the help of John Rodgers who owns a business in Belvidere. We needed to clean out a field crossing that had accumulated one foot of good ol' South Dakota black gumbo. We had met John on a previous trip. John's father Gib had been the Milwaukee roadmaster for this entire line and had retired in Kadoka before the Milwaukee's retrenchment in 1980. John had worked for his father as a heavy equipment operator along this stretch of rail on the Milwaukee Road, so his past experience and especially his large, loader tractor helped our cause immensely.

Wednesday was yet another hot day, but we actually completed cleaning all crossings, as well as trimmed brush and trees through Stamford to the washout. At the request of the Dakota Southern, we lubricated and weed whacked around all switches on the line. Wednesday was also the day the last fence came down. We now had 35 miles of clear rail from Kadoka all the way to the washout!

Thursday morning found us rummaging—with the permission of the Dakota Southern— through a scrap, crossing plank pile in Kadoka, looking for material to build the motorcar turnaround near the washout. Once we had enough suitable material, we cut it to length and transported the planks 35 miles east by rail, using Jerry Lesko's hy–rail truck. We spent most of the remainder of the day building the motorcar turnaround, a few hundred feet west of the washout, which afforded us a beautiful view of the White River valley.

Early Thursday evening we finally unloaded our two motorcars. We treated ourselves to an excellent, unobstructed, early evening photo run out to the washout and return. We left the motorcars on the rail that evening.

Friday we collectively decided that we would dedicate the morning trying to open the two remaining crossings on the wye in Kadoka. We wanted to use Friday afternoon to video tape the results of our long week's toil. The two remaining gravel crossings on the wye saw much of the same elevator traffic we encountered on our very first crossing. Our heroic effort only got us through the first crossing before we ran out of time on our self–mandated schedule. During late morning Paul Brewer showed up with his popper and gave us a hand.

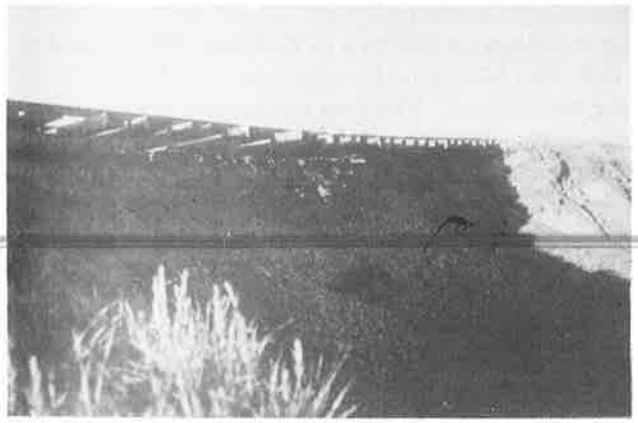
Three motorcars departed Kadoka at 2:00 P.M. on our video tape run. Jim had a radio in his motorcar, and to his surprise, as we neared Stamford, Jim was contacted by two First Iowa Division members, Jerry Droll and Tom Jenness. They were just a few miles east of us on I–90, near the exit for the gravel road which passed through Stamford. They had

their motorcars in tow in anticipation of Saturday's ride. When Jim told them of our location, they diverted to Stamford. To my surprise as we passed the west switch in Stamford, they were just pulling across the crossing near the east switch, approximately three–eighths of a mile to the east.

The work crew at the newly constructed motorcar turnaround, approximately three miles west of Oakaton, South Dakota.

We helped Jerry and Tom put one motorcar on the rail, and the four motorcars now continued the video tape trek east to the washout. When the video taping was complete, we turned our cars on the new turnaround and headed west, 35 miles to Kadoka. At Stamford, Tom got off Jerry's motorcar and drove his rig via county roads back to Kadoka while Jerry enjoyed the fruits of our labor on the rail back to Kadoka.

The Saturday morning official ride called for a 6:30 A.M. seton time with a planned 8:00 A.M. departure from the restored Kodak depot. The hot temperatures during the week had modified somewhat on Friday, making Saturday morning quite comfortable. Seven additional motorcars were lined up by the time the safety meeting was called. Our departure was delayed slightly with the unexpected arrival of a gentleman from the Kadoka Historical Society. The group took a quick tour of the Kadoka depot, which houses many railroad and area artifacts. We departed eastbound at 8:30 A.M.



The washout and end of the line, approximately three miles west of Oakaton, South Dakota.

My Milwaukee Road rendition of a CN MT14 had the honor to lead the group. Before heading east, everyone backed up approximately one mile west to State Hwy 73, which since 1998 is the west end of the line. We then motored east, past the west leg of the wye and the Kadoka depot. We covered the 35 miles to the washout in one and a half hours, scaring up grouse, mule deer, antelope and one lone porcupine the size of a dog house.

Once at our destination everyone inspected the washout which had occurred during a spring thaw in 1995, shortly after the Dakota Southern ceased operation on this segment. The washout is really a slide, leaving a rail length, complete with ties, suspended in mid air. From this location we had an excellent view once again of the beautiful White River valley.

Everyone backed up 300 feet to the newly constructed motorcar turn around, and by 11:00 A.M., we were westbound. Upon arriving in Stamford Jerry Lesko afforded everyone rare mileage by throwing the switches on both ends of the passing siding. He then realigned the switches for the main upon our departure.

All motorcars were back at the Kadoka depot by 12:30 P.M. and were soon being loaded for our scheduled evening ride in Gordon, Nebraska, a two–hour drive south.

We plan to ride this line again during early spring before the grass begins to grow. We also hope to have a maintenance crew clean the crossings again and make sure the line is fence–free. If you're interested in joining us, watch ***THE SETOFF*** for details. You can also contact me at:

Gary Holzinger
12598 Stone City Road
Anamosa IA 52205

What's Up Down Under

by Nic Doncaster

The Australian Society of Section Car Operators, Incorporated, was founded late in 1999 to represent its members, and to hold accreditation as an operator under the Rail Safety Act, 1996.

In the last eight months, the group has attracted significant interest from enthusiasts nationally, and today is, as far as can be determined, the only group representing section car operators for general access to rail infrastructure.

Yesterday, a major goal was achieved when the group was advised by Department of Transport personnel that it had achieved the requirements of AS 4292-1, and therefore had achieved most of the criteria for accreditation as an operator.

Group Coordinator Nic Doncaster noted, "This is a significant milestone for an activity that has been relegated to limited opportunities for access. It confirms my belief that owners of cars can operate safely in the railway environment. We look forward to being an active industry player."

"For those who don't know what we do, a section car is a small railway vehicle that was used by railway track workers. ASSCO organizes opportunities for members to run their cars. Section cars were rendered obsolete when road–rail vehicles were introduced in numbers in the mid '80s," he added.

ASSCO is now working towards access agreements with owners so that its operations can commence.

Persons interested in ASSCO's activities can contact the group via:

phone (0418807954),
e-mail (nldoncas@cobweb.com.au
website http://www.cobweb.com.au/~nldoncas/assco.htm

Authorized by Nic Doncaster
June 30, 2000

INSPECTION CAR
M9 SERIES D
ONE TO TWO MEN . . 500 POUND LOAD CAPACITY

MINIMUM LIFTING WEIGHT FOR ONE MAN

This M9 Series D is the ideal motor car for signal maintainers and for all one to two man jobs where light weight is important.

Spring Mounted for riding comfort — Aluminum Alloy Frame for light weight — Fairmont Hy-Load roller bearing, water cooled engine for surplus power and flexibility.

Rear lift only 98 pounds, reinforced lift handles and strong rail skids make it easy for one man to lift the car on or off track quickly. The power and light weight safety features of this M9D make it a popular car with roadmasters, inspectors and signal maintainers. This efficient one-man motor car helps considerably in handling the extra demands of today's signal and inspection service. Refer to Bulletin 391 for complete details.

SPECIFICATIONS:

ACCESSORIES:

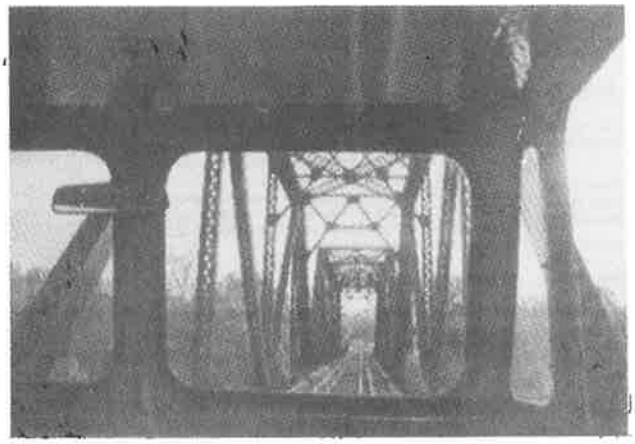
Wide wheel guards, side exhaust, and air cleaner are standard equipment and account for approximately 35 lbs. of the total car weight.

A page from the 1944 Fairmount catalog, compliments of Brian Loftin.

On the Toledo, Lake Erie & Western

submitted by Jamie Samuell

Grand Rapids , Ohio



Photos by Elizabeth R. Hieronymus

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Editor's Note: THE SETOFF is happy to print all ads received from members. There is no charge for placing an ad. If you want an ad to run for more than one issue, please indicate how many issues. No full page ads are accepted. Use the present issue's ads as a guide. Thank You! Send ads directly to: **Bill Coulson 2101 Westview Court Modesto, California 95358-1091, or e-mail: wcoulson@softcom.net**.

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M-19 Canadian car with fiberglass cab with door canvas. NARCOA approved. New: paint, seats, gaskets, wiring, lights, battery, brakes, belt. 12 volt system. Heater. Very clean Fairmont . 37.2 MPH on zero % grade. 12.0 MPF on 3.7% grade. A super speeder. $3,000 State of Washington.
Fairmont MT Transmission. Has "CN" shop tag. (rebuilt?) $300. (360) 331-1012
alhobo@whidbey.com nd00

Fairmont Multi-Gauge Motorcar M19ZU-E-5 in very good to excellent condition. Also have service manual. $4,500. Fairmont S-2 Motorcar in very good condition $1,400 obo.
Fairmont M-19AA - N&W #172 motorcar. Car was in fire, but it still starts and runs. $1,200 obo.
Fairmont 20" wheels (brand new). Have 8 wheels, will sell in sets of 4 only. $700 per set.
Mike Craner, 668 Ridgeway Drive, Taylor Mill KY 41015 (859) 491-6372 or (859) 331-3343.
giz_mo@angelfire.com nd00

1943 Fairmont M19 - Car was purchased from C&O 18 years ago. It was restored then with glass, paint, carb kit. Comes with a new, never used Pontiac Coil and custom canvas cover, looks good. Last run 10 years ago. Stored inside. Write S. D., 909 North James, Ludington, MI 49431. Asking $2,800.*(2t)nd00

MT14 Front and Rear Axles with bearings and wheels, $200 each. Rear axle belt pulley $50. Engine belt pulley $50. All prices in U. S. Funds. Tony Andrusevich (905) 692-5949. ND00

Turntable - Fairmont original equipment turntable complete with alarm. Hydraulic pump mounting brackets for MT-14 or MT-19 included. This original turntable operates faster and lifts higher. Copies of wiring and instruction diagrams included. $1,500 FOB Los Angeles. Contact: Wayne Parsons (818) 368-5942. nd00

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Fairmont Original Equipment Seats - Limited number, brand new. Walnut vinyl, black hinged tube frame. Back support $49.95. Seat cushion $49.95. Frame $39.95. Complete seat $134.95 plus shipping. Also available, matching walnut vinyl material by the yard for arm rests or deck boards - 54" wide $12.95 per yard. Clinton Andrews, 892 Beaconsfield, Grosse Pointe Park MI 48230 (313) 822-2000. E-mail clinton_andrews@wayne.edu. nd00

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MT-19 Tomah Cab T-Slider Window ..... each $78
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Tomah Cab Kit for MT14 ..... $1,000
Insulators, M9, M19, MT19 ..... each $25
Insulators, M14, MT14 ..... each $25
Insulators, A3, A4, A5 ..... each $30
Aluminum Lift Handles, M9, M19, MT14, M14, MT19 ..... each $85
Embossed Aluminum Engine Side Panel $30
Control Panel, M9, M19, MT19 ..... $50
Axles for M9, M19, MT19, MT14, rear and front, call for pricing.
Decals: Call for prices, can custom make any decal.
Les King, P O Box 164, North Lawrence OH 44666
(330) 833-2868 7 a.m. to 9 p.m. (EST))
Fax (330) 830-5213 nd00

MT14 Ready to use. New brakes, 4 boat seats, new curtains, exhaust, paint, battery, air horns. $2,500. M19. Totally restored, 12-volt, new brakes, seats, diamond plate aluminum floor and engine cover, alternating stop lights, curtains, a super car! $2,500. M-9 project complete $900. Tom (608) 241-0777 or tommys2toys@cs.com (3)*ja00

AVAILABLE AGAIN New M9 Axle Pulleys, Part No. M21581K, professionally cast and machined, ready to bolt on. $245 plus postage. Jim Dobbins, RR2, Box 105, Goff KS 66428 (785) 868-2388 or e-mail at motorcar@juno.com (3)*ja00

FOR SALE

Fairmont ST2K and single axle trailer. Ex CN car #154-23, Fairmont car #250710, new Dec. 18, 1981. Fiberglass body now painted yellow w/o lettering. Car is excursion-ready, has all glass, front and rear headlights, brake lights, beacon, two speed rear end, runs great! $2,800 U.S. dollars. Car located in Windsor, Ontario, Canada. For information call Joe Lemay (519) 727-4945. nd00

Fairmont MT-14 and tandem axle custom built trailer (electric brakes). Motorcar was used every season for the past 5 years. Turntable, heater, enclosed cab, and brown engine (B48G). Take it home, gas it up and hit the rails ! ! This motorcar is an 1985 or newer model. $8,850 OBO. George Gilchrist, La Grande. Oregon (541) 963-5270 or e-mail gilchris@ucinet.com nd00

Woodings Speeder - Car has no engine. Full fiberglass cab with sound proofing, no lift handles, has lights, wipers, no missing glass, cab in great condition. Missing drive line. Has converter, gas tank. Car is located in Washington State. $1,500. Call (360) 321-5770. nd00

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Fairmont Caps - Polyester wool blend quality caps with embroidered logo. Black, Red Dark Blue, Green - $16 each (ship UPS/ppd) Jeff Shelton, Roanoke VA Phone (540) 774-6027 - Fax (540) 563-2932. jf00

New 36" Narrow Gauge Axles made from 4340 steel shafting for M/MT16 with 1 3/16" diameter axles and for the M/MT14 with 1 7/16" diameter axles. This includes two short half front axles and the solid rear axle. Call or e-mail Smitty at (520) 204-2337 smitty@kachina.net ma00

2 Hour VCR Tape Of The 1999 Speeder Tour sponsored by Southwest Railcar, LTD. Dick Ray photographed and edited the tape, Al McCracken made duplicates with Dick's permission. Tape includes rail shots from the towns of Squamish, Lilloet, Williams Lake, Prince George, and Tumbler Ridge. Train shots include 100 car freights, Budd Cars, Electric engines, and cab shots. Track shots include canyon, waterfalls, lakes, power stations, electrified caternary, and coal silos. Send $6 (shipping included) to Al McCracken, 2916 Taper Avenue, Santa Clara, CA 95051. nd99

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C5 and C8 Carburetor Seats. All aluminum. Tried and proven. Have sold several sets. One piece, no rubber seal to separate. Install them once and forget about them. Seats fit C5 and C8 plus RKB twin carbs. Order FW1353RO for C5 seat and FW1353C8 for C8 carbs. and FW1353RKB for RKB carbs. $5 per seal plus $2 s&h flat rate. Contact West Michigan Railcar, 1694 Broadmoor Street, Muskegon, Michigan 49442-5302. (231) 773-7980 or e-mail strobx@aol.com *ja00

Electric and Mechanical Motorcar Bells - electric bells are operated on 12-volts and are available in 6" - 8" and 10" sizes. Mechanical bells are available 4", 6", 8" and 10" sizes. Foot operated bells are available in 8" and 10". If you would like to hear the true railroad sound of these bells give me a call and I will operate them so you can judge their application and sound quality. For more information call Henry A. Corbett, VP, The W. L. Jenkins Co., Inc. 1445 Whipple Avenue, S.W., Canton, OH 44710, (330) 477-3407. Fax (330) 477-8404. *mj00

MT19A3-2 Fairmont 1984 S/N 253665, was SP, now painted in UP armour yellow and gray. Car complete. Has rear and aft side panels removed but are included. Major extras include Vintage Trailer with canvas cover, IC-2000 radio with Flight Com head sets, duel fuel tanks with switch valve, new rear axle, sprocket and all axle bearings, electric fuel pump, electronic ignition and Coleman 12VDC cooler. NARCOA ready. Completely rebuilt '94. Last ran August, '96. $4,900. Jim Boyd, (801) 737-3523 at Ogden, Utah. E-mail linbo@utahisp.com so00

C5 Carb EZ455 check valves (poppets) cost $15.60 plus $3 S/H for any amount. Carey Boney, 1605 Powers Road, Wallace, NC 28466 (910) 285-7489 careyboney@intrstar.net (2)*ma00

Hadley Air Train Horns - This is an excellent horn set for speeders. A mini-compressor with an air tank is required to operate. Picture will be available soon. Visit www.ameritech.net/users/oemrep/trainhorn.htm Website for more information or email or call Scott Grunewald, 25713 Hillview Court, Bldg, 4, Mundelein IL 60060. (847) 726-7900 oem1@usa.net Price is discounted to $375 USD plus S&H (Reg. Price $490) jf00

Wooding Springs - $35 each plus shipping. Mike Travis (717) 792-9181 email mdtravisjda@cs.com jf00

Carb. Poppet Valves, #EZ-455. $15.60 each plus $3 shipping and handling. C5 and C8 carb repairs done, very competitive prices with quality work. Contact: Carey Boney, 1605 Powers Road, Wallace NC 28466. (910) 285-7489 ja99

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The Northern Pacific's *"Rails To Gold And Silver"* Lines to Montana's Mining Camps - Vol.1: 1883-1887. It covers seven of the early branch lines built in Montana under the auspices of the NP. 150 pages, photos, maps, profiles, timetables, branchline reports - $22.95 plus $3 shipping. Bill and Jan Taylor, 917 Park View Way, Missoula, MT 59803. nd99

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All videos are 2 hours Std. Play on VHS w/music and narration. $16 each plus $3 shipping on 1st tape, additional $1 for 2nd tape. Buy 3 tapes and get free shipping. Credit card or check. Bill Kozel, 23 Lee Ave., Rexford NY 12148-1209 (518) 399-5836 *ja99

NOTICE

Custom Graphics or Lettering for your motorcar, signs, banners, vehicles, egtc. T-Shirt hats, pens also. Call Steve Kepner (570) 584-4117. *ja99

License Plate Frames - "My Other Car Is A Fairmont Speeder" They are orange vinyl lettering on a black plastic frame. A couple of pictures are available at: http://albums.photopoint.com/j/AlbumIndex?u=56518&a=9332895 If you want one for your auto(s), and/or trailer, I can get them for you at the following prices: Deliver (at N. Calif runs) $14 COD. By 1st class mail / padded envelope: $16 for one, $30.50 for two with check in advance to: Don Pomplun, 521 Van Buren Pl. San Ramon CA 94583. k2hug@home.com so00

WANTED

Wanted: M-9 or M-19 open car in good condition or restored. I would drive about 800 miles from Detroit. (810) 231-4886. cgleason@globaldsl.net nd00

Wanted: Tulsa area member is looking for some old time, manual arm, switch stands or harp stands. Would like to have both lighted and target style. Would also like to have information or drawings on the stand dimensions or casting dimensions. Contact Charles Pelkey, (918) 595-6727 or pelkey@swpa.gov nd00

Wanted: I need to know the gap for the rings on the piston of an 8 hp engine RQ Group D engine Number 93 98.2. The engine is from a Fairmont speeder that is being restored by members of the Western New York Railway Historical Society. Any help in this matter would be appreciated. Please send your information to Bob Snyder at Bobs39ford@aol.com (716) 668-8223 .

Would like to purchase a Milwaukee Road Tomah Cab MT14L, or MT19A, or Soo Line motorcar in ready or almost ready to run condition. Any info; please e-mail 1hyrail@excite.com or call after 5 p.m. (CST) (414) 444-6974. Dave Hendricks. so00

Wanted: Ready to run motorcar. I am in the Chicago area, but can travel some to pick up. Tom Vaughn (219) 324-3494 or e-mail phone-man@home.com so00

Wanted: Narrow or Adjustable Gauge Trackcar (Dead or Alive). Please Contact William Stenitzke, 5523 Rte 9W South, Marlboro NY 12542, (914) 213-1248 Mr65GTO@aol.com so00

Besides adherence to the NARCOA and PRO restrictions, there are likely to be additional special requirements for this trip, among which will be a requirements for all to have a working radio to both receive and send on the NARCOA frequency. Additional maintenance/reliability issues will be addressed as well. A statement of good health will be asked for.

Cost will be in the range of $2,800 to $3,000 US dollars per motorcar and operator (double occupancy), with a supplement for each passenger of about $700. The prices include the deluxe round trip fair on the Skeena (including all on board meals).

Terms:

1) Please send a SASE large envelope for an application to: PRO BCR, Denny S. Anspach, MD, 920 29th Street, Sacramento CA 95816

2) A filled application with a non-refundable $200 deposit will be required to hold a place for a motorcar and operator. Added deposit of $50 each required for each passenger. Applications will be accepted in order postmarked beginning October 9th.

3)An additional non-refundable deposit of $500 each motorcar ($100 each per passenger) will be required by February 1, 2001.

4) A final payment of the balance will be required by May 1, 2001.

For more information visit the PRO website at http://www.pro-online.org/calendar.htm

All applications and communications addressed to: PRO BCR, Denny S. Anspach, MD, 920 29th Street, Sacramento CA 95816 danspach@macnexus.org (This is a busy medical office, so kindly confine questions to e-mail if you can.)

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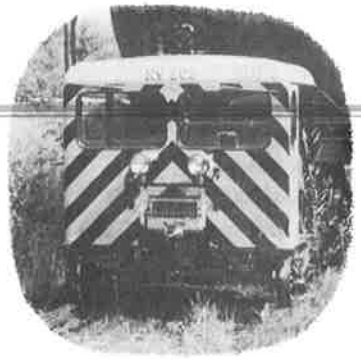

The stoker is shoveling the black diamonds.
Stoker (Fireman)
Black diamonds (Company coal)

"When do you shine, skipper?"
When do you shine? (What time are you called for?)
Skipper (Conductor)

The big ox stepped up into the parlor to get into his harness.
Big ox (Conductor)
Parlor (Caboose)
Harness (Passenger conductor's uniform)

The head pin wore hand shoes and held a hay burner.
Head pin (Front end brakeman)
Hand shoes (Gloves)
Hay burner (Hand oil lantern)

Anchor them in the garden.
Anchor them (Set the brakes on standing cars)
Garden (Freight yard)

That smoke called me a deadhead!
Smoke (Fireman)
Deadhead (Fireman's vernacular for brakeman)

(continued from page 18)

years. The merits of the light self–contained power car for branch and interurban service have been fully set forth in these pages. These cars are generally of the type shown in the accompany engraving which represent one of the latest of this company's product, with a seating capacity of 35 persons. The body is divided into two compartments, the rear having reversible seats and the forward compartment containing the engine and having room also for baggage and express matter, or it may be used as a smoking compartment, being fitted with side drop seats. The engine and transmission are mounted on the four–wheeled truck as shown. The wheel base is eight or ten feet. The engine is four–cylinder, of special design, rated at 50 or 60 horse power at 600 revolutions per minute. The transmission is of the gear type, giving three speeds in each direction and a maximum speed of 25 to 30 miles per hour on level track. This car complete weight about 24,000 pounds.

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And thanks for all your contributions!