



C&TS DISPATCH

VOLUME 34 NO. 1
SPRING 2021

Special Report: Restoration of D&RG Pullman Tourist Sleeper 470 Part 1: 2009–2015

Plus: Creating a Project Standards Sub-Committee

Some New Rides on the C&TS

2021 Summer Work Session Schedule

Special Supplement: 2021 Victorian Steam Roundup!



C&TS DISPATCH

Friends of the Cumbres & Toltec
Scenic Railroad, Inc.

William Lock, Founder-1988

Vol. 34, No. 1 🌸 Spring 2021

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C&TS DISPATCH

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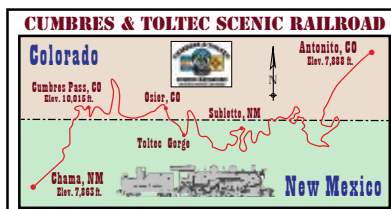
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The *C&TS Dispatch* is published four times each year by *The Friends of the Cumbres & Toltec Scenic Railroad Inc.*, a New Mexico nonprofit corporation. The Friends is the official museum arm for the Cumbres & Toltec Scenic Railroad, a 64 mile-long railroad and museum of railroad history and technology, operating between Antonito, Colorado, and Chama, New Mexico. The railroad is owned jointly by the States of Colorado and New Mexico. As the museum arm, the *Friends* is dedicated to the preservation and interpretation of the railroad. The Friends is an Affiliate Member of the *Heritage Rail Alliance (HRA)*. Family membership in the Friends is \$35.00 per year; outside the USA membership is \$50.00. All contributions are fully tax deductible and will be gratefully accepted. For information, please write us in Albuquerque at the *Friends of the Cumbres & Toltec Scenic Railroad, Inc.*, 4421 McLeod Rd. NE, Suite F, Albuquerque, NM, 87109, or call us at (505) 880-1311.



Denver & Rio Grande Railway: 1880–1886

Denver & Rio Grande Railroad: 1886–1921

Denver & Rio Grande Western Railroad: 1921–1970

Cumbres & Toltec Scenic Railroad: 1970–today

**The Cumbres & Toltec Scenic Railroad is both a
National Historic Landmark and a
State Registered Historic Site.**

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President's FORUM



Restoring Some Normalcy

What a crazy past twelve months it has been as life took a departure from what we all might refer to as “normal.” Every routine in our lives seemed just a bit different: going to the grocery store, trying to schedule a doctor’s appointment, attending church, jumping on an airplane for a flight, going out to eat, all depending on where we were. Masks everywhere. Keep your social distance and don’t forget to wash your hands. Again.

Closer to home, the Friends’ version of 2020 was equally abnormal. Virtual member meetings, two virtual Board Meetings, no Moonlight Train and limited work sessions.

If you aren’t fatigued from all of this, then you’ve handled the situation extremely well. But hark, there appears to be light at the end of the tunnel and it isn’t #463 coming through Rock Tunnel! COVID cases have been plummeting since early January and people are getting vaccinated. I’ve had my first vaccination and will receive the second dose in a few days. There seems to be more activity as people get out and try to live life again.

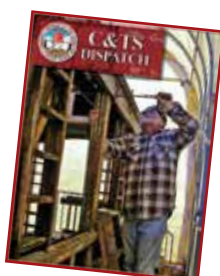
Compared to 2020, the Friends

foresee a drastically different season coming. Although we may not be totally back to normal, the summer and certainly the fall will have a much better feel. We have a fairly normal slate of sessions scheduled as activities that were cancelled during 2020 are getting back on track. Better yet, members are signing up! One highlight will be a brush-cutting session in May on the Chama side of Cumbres Pass, Project 1370, with Locomotive 315 ferrying crews out along the line. After a winter of storm damage, this will be a high priority.

The Railroad will be opening up and offering Antonito/Osier turns on Memorial Day weekend and then Chama/Osier turns starting June 5th. We are anticipating having a Summer Member Meeting and Dinner on Friday, June 18th at the Cumbres pavilion with a barbecue and train ride from Chama. Scroll ahead another month for our annual Moonlight and Wine Tasting Train operating from Chama to Osier and returning on Friday, July 23rd. This should provide our membership and the general public with the chance to experience a wonderful summer evening traveling through the San Juan Mountains under a glorious full moon!

One of the 50th Anniversary events that was cancelled due to the pandemic was the 19th Century Victorian Steam Locomotive Roundup. It’s been rescheduled between August 19 and August 29. This event will feature several special trains, including appearances from two guest 19th century steam locomotives. The Friends are looking for members to volunteer during the Roundup Work Sessions, F1 and F2, where we will have the opportunity to promote the organization and sign up new members.

On Saturday, September 25th, the Friends will operate a photo charter



From start to finish, the restoration of Pullman Tourist Sleeper 470 was an eleven-year project. As part of the initial tear down in March, 2011, Friends volunteer Tom Fitzgerald removes screws from the car’s fascia at the Pikes Peak Trolley Museum, the Friends’ work site in Colorado Springs. It will be another decade before the volunteers can step back and admire their finished work. *Photo by Duncan Burdick*

C&TS Friends Telegraph: *NEWS*

from Antonito to Osier and return featuring Locomotive 168 and our newly restored historic passenger train equipment. The Friends' contribution, Tourist Sleeper 470, will be part of this train, so all those years of hard work by so many Friends members in Colorado Springs and Antonito will be on display. There will be plenty of photo runbys plus lunch at Osier. We anticipate a maximum load capacity of approximately 45 passengers for this unique excursion. So, if you're looking for that opportunity to ride behind and photograph this historic trainset, here's your chance!

Let's get back to having some fun! Let's get back to seeing our work session friends! Let's get back to seeing the wonderful C&TS staff in Antonito and Chama! And let's get back to riding on our most favorite steam powered tourist railroad in the world, the Cumbres & Toltec!

As always, I want to express my appreciation to all our members for their volunteerism and financial support. You mean so much to this organization. I hope to see some of you during the course of 2021.

Take care.



Tim Tennant



In December, the Cumbres & Toltec Scenic Railroad announced that it would be converting K-36 Locomotive 489 to operate on an oil-based fuel and to ensure it is prepared to safely function in a continually-evolving operating environment.



No. 489 Converting to Oil for Fuel

The Cumbres & Toltec Scenic Railroad and its predecessor, the Denver and Rio Grande Western, have been operating trains with coal-fired steam locomotives since the 1880s. Unfortunately, recent environmental changes that sometimes result in a dryer climate are creating a challenging operating environment with frequent dry or windy periods increasing the risk of fire. The Railroad is committed to protecting the incredible landscape and scenery in which we operate. Slowing or stopping operations for any more than a short period of time would be financially challenging to the Railroad, its employees and the communities which rely upon it as one of the region's main economic drivers.

To better maintain operational continuity in varying weather conditions, the Railroad is converting Locomotive 489 from coal to oil firing. "We plan to have the #489 ready for use in the upcoming 2021 operating season," said Interim C&TS CEO Eric Mason. "We have not forgotten, nor will we ever forget, the importance of our historical DNA and the critical role the C&TS plays in preserving the most authentic steam railroading experience available anywhere, now and for future generations. We will strive to always have the best examples of operating coal-fired steam locomotives in service when conditions permit.

"The C&TS is fortunate to have a world-class team that's well versed in what it takes to complete such a conversion," added Mason, "and we are confident in their ability to complete the project. It's unlikely that many guests will notice a big difference in the experience given steam is still the workhorse behind making these historic engines work. "Oil fuel is also a historic method of supplying the energy required to generate steam, and although this was not the case on the Denver and Rio Grande, it does not significantly or permanently alter this historic locomotive," noted Stathi Pappas, Head of Special Projects, and Marvin Casias, Head of Railroad Operations.

New Website! New Address!

As mentioned in last issue of the *C&TS Dispatch*, the Friends' new website is up and running. When the issue went to press, the new URL address had not yet been established. But the wait is over!

To access the new site, point your browser to...

<https://friendsofcumbrestoltec.org/>

...and once you are there, take a tour! There is lots of information and resources to be found.





C&TS Friends Telegraph: NEWS



WORK SESSION SCHEDULE SUMMER, 2021

We will need a lot of Friends' help this summer to catch up on what we lost last year due to COVID-19. Would you be willing to help out? There's something for everyone! We will especially need lots of help during the *19th Century Victorian Steam Locomotive Roundup* during *Sessions F1 and F2*. Find out how you can help! Check out the enclosed *Special Supplement*.

- Session A: May 17–May 21**
- Session B: May 24–May 28**
- Session C: June 14–June 18**
- Session D: June 21–June 25**
- Special Session 5: June 26–August 18**
- Special Session 6: August 16–August 18**
- Special Session 4: July 19–July 23**
- Session F1: August 21–August 24**
- Session F2: August 24–August 29**
- Session G: September 24–September 29**
- Session COS: January 1–December 31**

Project information can be found in FIDO at:
https://fctsfido.org/FIDO/proj_sched.php?public

Tim Smith, a long time Friends member and project chronicler passed away on March 24. Tim enjoyed documenting projects and learning from them. He was instrumental in developing the procedures used to document projects for future restorations. Last November, Tim was presented with his 25th Year Volunteer Award, coincidentally on Veteran's Day, November 11, 2020. Tim was a Navy veteran and we called him "Shellback," an honor given seamen who sailed across the Equator.



Tim would usually come into the Albuquerque office a couple of afternoons a week and work on his chronicling duties. We enjoyed seeing him as he always had a smile on his face. Tim loved the Railroad and enjoyed visiting with other volunteers, many of whom he had known for many years. He will be missed.

~ Tim Tennant and Sharon McGee



Randy Quinlan

STANDARDS SUB-COMMITTEE: MEMBERS NEEDED

You can look at "standards" in two different ways: A **standard** can indicate a specific level of quality, a goal. **Standards** can be used to measure that quality against prior evaluations. When it comes to the restoration work performed by the Friends, both meanings apply.

In our restoration work, we seek a standard, perhaps pre-established by the Railroad or mandated by law, to achieve the best level of quality we can with "what we have." We also need standards to keep the specific skills and knowledge of historic car restoration we have learned in the past and pass them on from year to year, project to project, volunteer to volunteer, of "how to do it right" so the team can hit the ground running when they take on any new project.

We have always produced quality restorations, but we also face a huge task in maintaining all the equipment and structures we have restored so far. And there is still more that we need to do. This is where a Standards Sub-Committee comes into play.

In 2019, we initiated a volunteer "Project Archivist" role to capture and preserve tasks and processes, not only what we are doing but also how it is done. As may be expected, not much progress was made during the 2020 season but we are looking ahead and promoting it for 2021.

The Projects Committee is looking for help planning and establishing a **Standards Sub-Committee**. Many of you have attended our work sessions in the past or participated in the Colorado Springs restoration projects. You have first-hand knowledge of our processes and successes. The Projects Committee is inviting you to help us make things work even better and smoother, and help preserve our skills into the future. Whether we establish actual "standards" or offer educational activities to make all of us better informed on how to perform our restoration work, any ideas you have will be very useful in planning.

If you would like to join us in this study of restoration standards or you have questions or concerns, please contact Bill Kepner at drgw0579@comcast.net or Tom Stewart at tstewart@paradisolutionstx.com. We would like to hear from you.





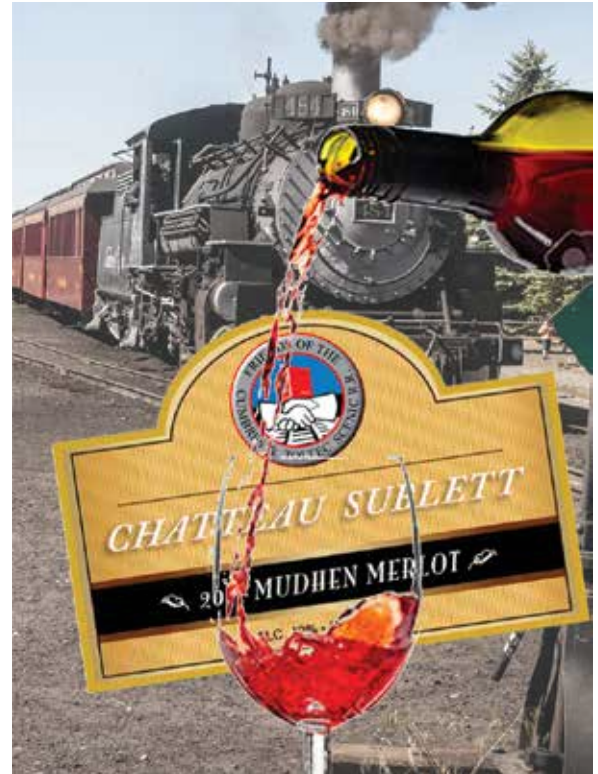
C&T Friends Telegraph **TIMETABLE**

Moonlight & Wine Tasting Train 2021

Friday, July 23, 2021

(HEY! It's time you got out of the house!)

Join us for what has become a fun and relaxing annual event as our special excursion train travels through the majestic San Juan Mountains of northern New Mexico and southern Colorado! A special photo runby will be staged en route. Return under the full moon and the beauty of the passing scenery. Enjoy a prime rib and cod dinner with all the trimmings at the Cumbres & Toltec's Dining Hall in Osier. Wine and cheese tasting en route—following health mandates—will feature wines from a regional winery. There will be a full bar available stocked with your favorite libations. There is limited seating so make your reservations now!



TRAIN BULLETIN	
CUMBRES & TOLTEC SCENIC RAILROAD	
MOONLIGHT WINE TASTING TRAIN	
FRIDAY, JULY 23, 2021	
Depart Chama 5:00pm...back at 11:30pm	
Fares: Parlor Car	\$175/person
Deluxe Class	\$160/person
Coach Class	\$99/person
(Friends Members)	
General Public Coach	\$109/person
Call 505-880-1311 for Reservations	

C&T OFFERS A NEW SLATE OF TRAVEL OPTIONS FOR 2021

Spread the word! The Cumbres & Toltec Scenic Railroad is offering a variety of travel options and schedules.

The regular *Antonito-Osier-Antonito* schedule will operate Tuesday through Saturday, June 5 through September 12, with lunch at Osier. Beginning September 13, the train will operate Monday through Saturday with select Sundays (no Friday Service) with lunch at Osier. Monday service begins September 13.

The regular *Chama-Osier-Chama* schedule will begin June 5 and operate Tuesday through Thursday, plus Saturday and Sunday with lunch at Osier. Monday service begins September 13. Note: There will be no through-bus service from either village this year.

The new *San Juan and New Mexico Express*, with *Locomotive 168 pulling a full set of historic 1889 passenger cars*, will operate from Antonito to Osier and back on Sundays: June 27, July 25, August 15, September 19 and October 24.

The new *Antonito Express* will offer a half-day trip between Antonito and Big Horn and back daily from Memorial Day, May 29 through June 4, and then Sundays

only June 6 through September 12. There will be no lunch service but the concession car will be open.

The new *Cumbres Express* half-day trip will roll from Cumbres Pass to lunch at Osier and back to Cumbres beginning on June 5, operating Tuesday through Saturday and Sunday (no Friday service). Monday trips will be added in the fall.

The new *Chama High Noon* excursion will depart Chama at noon, climb to the summit of Cumbres Pass and return to Chama, a two-and-one-half hour trip, every Friday between June 17 and October 24. There will be no lunch service but the concession car will be open.

These shorter trips might be perfect for families with small children or visitors who are on a tight schedule but still want a taste of steam railroading in the Rockies.

The operating season ends on October 24, 2021.

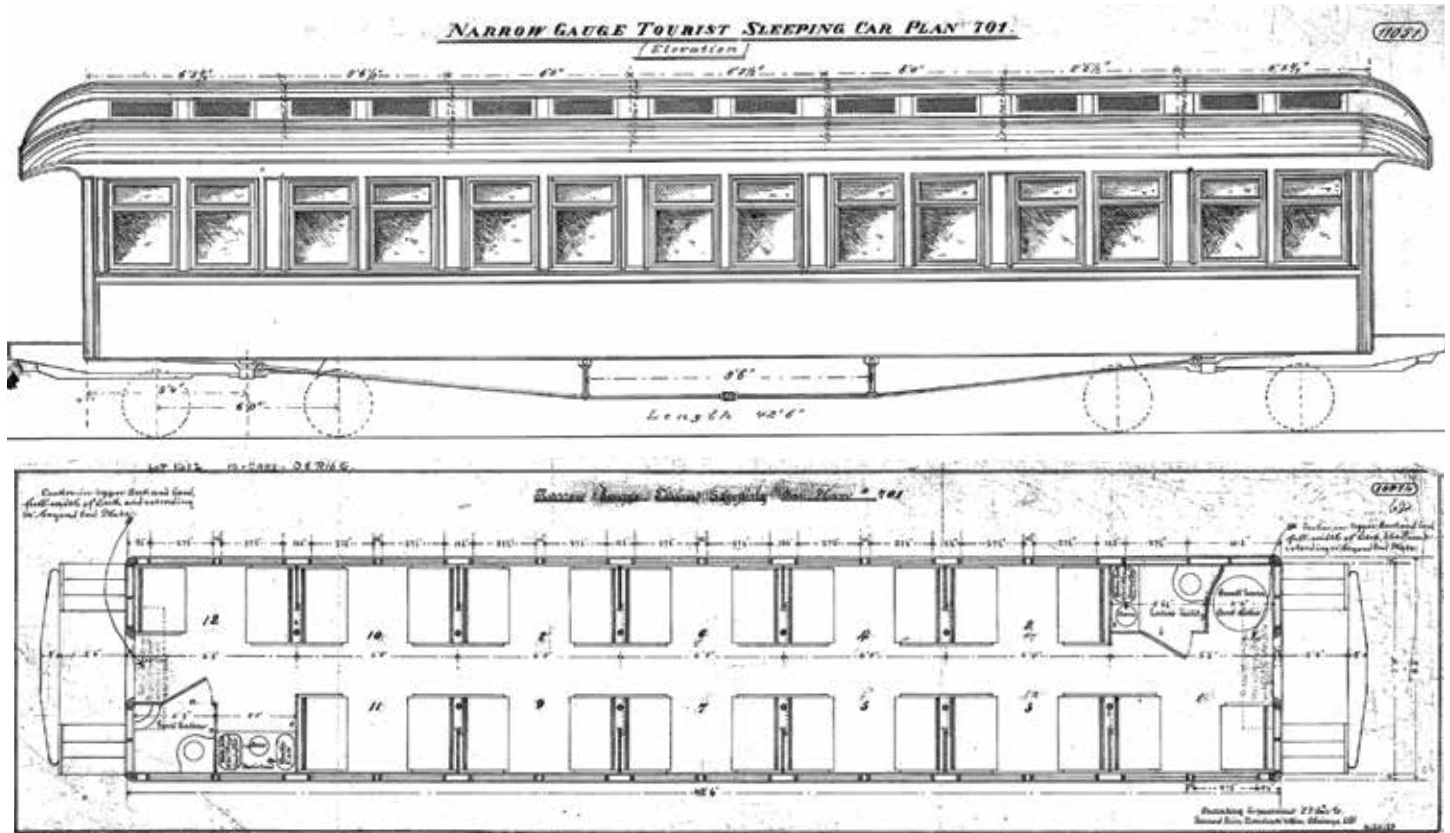
For a complete list of schedules and date, along with booking information, visit the Cumbres & Toltec Scenic Railroad web site at <https://cumbrestoltec.com/schedule/>

Don't forget the 19th Century Iron Horse Roundup, Antonito, August 21–26 and Chama, August 27–29

RESTORATION: A SPECIAL REPORT

“Restoration describes the process of returning the artifact to the physical condition in which it would have been at some previous stage of its morphological development.”

Keith E. Hayes, AIA, *C&TS Dispatch*, Fall, 1995



The Restoration of D&RG Tourist Sleeper 470 Friends Project 1115 Part 1: 2009–2015

In the summer of 2009, volunteers of the Friends of the Cumbres & Toltec Scenic Railroad began the multi-year restoration of Denver & Rio Grande Pullman Tourist Sleeper Number 470. It wasn't the first time the Friends had undertaken a project of this magnitude. Nor was it the first time a project was initiated in a location other than Chama or Antonito.

In 1997, two Friends restoration projects began at the Western Museum of Mining and Industry north of Colorado Springs. Restoration of Idler Flat 06008, the boom tender for D&RGW Pile Driver OB, was completed and the car was returned to the Railroad in 1998. Volunteers included Roger Briggs, Rich Weitzel, Limon Niblack, Bob Tully, Jerry Sahnd and others. OB's base, Car 0363, was completed in December 1999. The work site was then moved to the Black Forest area. Some of the original group along with Tom Simco, John Engs, Craig McMullen, Glenn Hall, Cliff Young, Duncan Berdick and others continued with the OB

platform restoration, returning OB to the Railroad in 2008 in operational condition. Many of the OB Platform team were itching for another long-term project but the Black Forest site was no longer available and the search began for a new restoration location. Fortunately, a new work site was offered, right in their back yard,

The president of the Pikes Peak Historical Street Railway Foundation invited the Friends to join them at their facility at the old Chicago, Rock Island and Pacific roundhouse in Colorado Springs, aka the "Trolley Museum." Accessible to I-25, near an equipment rental facility, and offering the resources of the Trolley Museum, the work space outside the old roundhouse included a maintenance pit and yard space for both a semi-trailer as well as a large shipping container as a car shop. It was a perfect spot.

Now, all they needed was a project. Fortunately, one was already under serious consideration: the 1889 Pullman, an original Tourist Sleeper, formerly D&RGW Outfit Car 0252.

Tourist Sleeper 470: History by John Engs

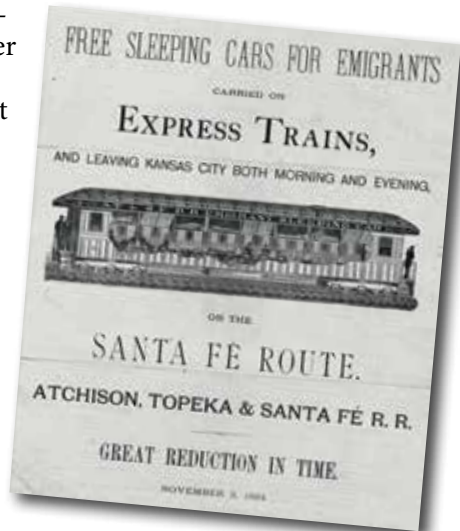
The Denver & Rio Grande Railway was chartered as the State of Colorado's first narrow-gauge carrier on October 27, 1870. In late 1879, D&RG engineers drew up plans for building the Railroad south and west to the silver mines in southwestern Colorado. The western expansion was named the San Juan Extension. By December 31, 1880, construction had reached Chama, New Mexico and continued on to Animas City on the Rio de las Animas Perdidas, near the present city of Durango, Colorado.

By 1884, the D&RG operated more than 1,600 miles of track through the 1,000-foot-deep Royal Gorge, the almost-as-spectacular Eagle Canyon, along the Black Cañon of the Gunnison past Currecanti Needle, over Marshall Pass, Tennessee Pass, Cumbres Pass, and numerous other breath-taking views. The line over La Veta Pass to the San Luis Valley, completed in 1877 at 9,220 feet, was the highest railroad pass in the world. Bottom line: the Denver & Rio Grande passed through enough spectacular scenery to make it a tourist mecca.

The tourist sleeper was the logical outgrowth of the old emigrant car. Those primitive boarding cars handled a class of traffic that Pullman had no ambition to attract. Emigrant cars had been used since the 1840s and were often little more than converted boxcars. But the Central Pacific began a new trend in the 1870s by introducing a more civilized emigrant car, following the general arrangement of the standard sleeping car. They amounted to a very acceptable cut-rate overnight excursion car and the difference in fares was astounding: a trip to the West Coast was \$13 by Pullman, \$3 by tourist car. Within a few years, other Western railroads were running improved cars that began to rival the comfort if not the ostentatious luxury of Pullman's finest. By the mid-1880s thousands of middle-class passengers were taking advantage of these low-priced sleepers. In 1888, the *Car Builder's Dictionary* featured the standard gauge low-priced emigrant sleeper constructed by Pullman and used by Union Pacific on its transcontinental line.

From the very beginning of his Railroad, General Palmer saw the benefit of the tourist trade. It could probably be argued he may have been the first promoter of such commerce in Colorado. The tourists ran the gamut; those content to lounge about merely admiring the scenery to stouter types wanting to get out into it. More daring tourists from the east wanted to avoid the dressing-for-dinner circuit and take the Rio Grande's widely advertised five-day trip "Around the Narrow Gauge Circle", while those who desired to throw off the restraints of city and resort life altogether chartered private trains of narrow gauge sleepers and business cars, often spotted on sidings while members of the party admired the scenery, the wildflowers and the capacity for hard liquor of the miners in the neighboring diggings.

The D&RG needed cars to accommodate those passengers. Narrow gauge passenger equipment in the early days of the Rio Grande and its Colorado neighbors moved toward what was known as "elegance" in the décor of Pullmans and dining cars and more or less Spartan simplicity in ordinary day coaches, combines and smokers.



Kansas Historical Society



470 Facts:

As a tourist sleeping car, **D&RG 470 represents a rare piece of engineering and transportation** unique to late 19th century America, a contributing asset to the National Landmark that is the Cumbres & Toltec Scenic Railroad.

As a tourist sleeper used by the Denver & Rio Grande, Colorado & Northwestern, and Denver Boulder & Western narrow-gauge railroads, **it is part of the early tourist travel in the Centennial state.**

Of hundreds of original D&RG narrow gauge passenger cars built, **only 56 cars of all types survive today.**

Of those, **only four tourist sleepers are known to still exist and then only two of those were built by Pullman.**

Only three (3) Pullman-built narrow-gauge cars of any type used in Colorado have apparently survived.

The car is **the only known surviving narrow-gauge outfit car used by Western Union.** It is thought to be **the only such car, standard or narrow-gauge.**



Sleeping cars of the era fell into two categories based on the degree of luxury provided. At the top end were the Palace Cars, the best in woodwork, the plush seats, polished brass ornamentation, and every other feature George Pullman's company could supply. At the low end of the spectrum, for those less well-heeled, came the tourist sleepers. The tourist car was remembered by occupants for its cane seats "that put bunions and a beautiful basket weave impression on the backs of one's legs—the brooding, lingering smells of stale food with the lusty odor of garlic predominating."

Denver & Rio Grande Tourist Sleeper No. 470 was the last car built in number sequence 461 through 470. Contracted August 8, 1889, with the Pullman Palace Car Company, these cars were part of "Lot 1612" built to Pullman "Plan 701." Plan 701 was modified for narrow gauge specifications at Pullman's Detroit, Michigan plant, as its predecessors were manufactured as standard gauge for the



Pullman Tourist Sleeper 466, sister to 470, at the Pullman factory

Union Pacific. Leaving the factory, the cars were equipped with standard gauge composite trucks,



Interior, Pullman Tourist Sleeper 466

as shipment to Denver was over the transcontinental railroad. When all ten cars arrived in Denver in October of 1889, the cars' trucks were removed and converted to three-foot using narrow-gauge axles shipped with each car. The trucks were reinstalled and cars were sent out over the narrow-gauge system.

D&RG 461 through 470 served Palmer's narrow gauge from 1889 until 1898. The need for narrow gauge tourist sleepers diminished as access to Denver's Union Station was no longer possible with the conversion of formally narrow gauge rails to standard gauge, with some three-rail at Alamosa and Salida remaining for the interchange. Traffic demand to the mining towns had declined as well. The D&RG sold Nos. 467, 469 and 470 to the Colorado & Northwestern (C&NW) on March 29, 1898. Car No. 470 was renumbered by the C&NW as Car No. 9 and the car served under that number for eleven years (1898-1909). The number "9" has been verified in gold leaf above the doors to the car body.

In 1909, the C&NW reorganized as the Denver, Boulder & Western (DB&W). They renumbered C&NW Car No. 9 as DB&W No. 21 and the car operated as originally intended until the line went bankrupt in 1919. The vivid imprint of "21" in gold leaf over the number "9" was present above the entry doors. In August or September of 1919, the Morse Brothers Machinery Supply in Denver (a broker-

age) received the mechanical assets of the defunct DB&W. A page from their 1920 catalog displayed Car No. 21 or one of its sisters. Western Union purchased all three of the cars and renumbered Car No. 21 as Western Union Outfit Car No. 301. They were assembling a train consist to support work crews on telegraph lines in areas served by the D&RG narrow-gauge.

At the height of the Great Depression in 1933, Western Union abandoned their train consist on a siding near Gunnison. The D&RGW, after receiving the abandoned car deeds in November 1933, entered the cars into inventory. Outfit Car No. 301 was entered as Outfit Car No. 0252. As No. 0252 it had several assignments for support on the narrow gauge system. One of those was as a temporary Railway Express Agency Office and freight station during the remodeling of the passenger station at Monte Vista, Colorado in 1947. Sometime after that No. 0252 was converted to a Kitchen & Diner. During its final years of service, it operated in support of the MOW bridge crew. J. C. Thode, an official with D&RGW, gave the final disposition of the car as being retired in December 1953 and dismantled in Alamosa. After removal of all steel from the underside by the scrapper, the wooden car body was sold.

A farmer purchased the car body from the scrapper in 1953. In 1963, Bernie Watts of Backshop Enterprise, Denver, purchased the car body from the farmer in the San Luis Valley and moved the car to his property near Chama.



252 in Chama, C&TS Dispatch, 1996

In the early 1990s, railroad employee Earl Knoob made a structural inventory and evaluation of the car in Chama. He concluded that "The car is in remarkable shape considering its age and the weather extremes it has been subject to... However, considerable work must be done..." He recommended that the governing Board of the Friends of the Cumbres & Toltec Scenic Railroad should consider purchasing the car for future restoration.

In 1994, after considerable discussion, the Friends purchased the No. 0252 body from Bernie Watts. In 1996, the car body was moved to the Chama yard for eventual restoration. To preserve the car body, it was cocooned with a plywood cover and neoprene roof covering in the summer of 2005. The car remained in Chama for the next four years until, on August 10, 2009, the body was loaded on a flat bed truck and carried to the new Friends work site at the Pikes Peak Trolley Museum in Colorado Springs, Colorado.

This 250-mile odyssey was just the beginning of the much-longer odyssey of restoring the car from a disintegrating hulk of No. 0252 to the Pullman Tourist Sleeper that once graced the rails on the Denver & Rio Grande, No. 470. This two-part story presents the long road of a passenger car's return to glory.

Part II of the restoration will continue in the Summer issue of the *Dispatch*.



From the Editor:

Presenting this story, a railroad car restoration that took place with many steps and processes mixed together over an eleven year period, has been a bit of a challenge.

To present this rather non-linear story so it could be read and understood in a linear manner, I have taken a couple of liberties with the timeline. While most of this article (and the subsequent Part II of the story in the Summer issue of the *Dispatch*) is presented year-by-year, several of the most complex portions, such as reinforcing the center sills with steel, are presented as single, multi-year sections. Also, some of the smaller projects that happened over time are likewise grouped into one topic for clarity. While they are still approximately in chronological order, they may have taken place in a slightly different time and space.

Much of this story is based on the summaries of the online blog supervised by Duncan Burdick, with photos provided by the volunteers and presented here in much the same way as the Work Session reports are normally posted. Other portions are direct summaries and comments from some of the volunteers who provided details not covered in depth by the blog.

Altogether, I hope this helps you, the reader, understand the full complexity of this amazing restoration.

You can visit the complete restoration blog, including many photos not presented here, at <http://friendsofthectsrccos.blogspot.com/>

Chris James, Editor, C&TS Dispatch



onto a flatbed truck in Chama and the following day was delivered to the Colorado Springs work site.

Unloaded from the trailer, it was set on the cribbing above the service pit. Removing its plywood "cocoon" would have to wait until a protective structure could be built around the car.

As fall moved toward winter, work began on the deconstruction of the interior, the first step in turning Outfit Car 252, a kitchen and diner, back into a Pullman Tourist Sleeper.



Craig McMullen

Restoration began in November with Craig McMullen pulling some of the paneling off from around the windows to get an idea of the original molding. Throughout the project, Craig would recreate much of the car's custom woodwork as well as some major structural pieces in his Colorado Springs home woodshop.

The cross-pieces on the walls between the windows were held in place by molding which was once glued in place, but over time had become free-floating. Where there had once been an "icebox" for the kitchen now exposed insulation that consisted of mounds of wood shavings. Asbestos located behind the metal of the kitchen stove and car heater needed to be removed professionally.



Outside, footers were placed to support a canvas tent that would cover the car for the unknown length of time it would take to complete restoration.

After weather delays, setting the arches to support the tent began in April, though it wouldn't be until November that the tent would be installed.



Back inside, it was clear that the car's ceiling was beyond repair and would need to be completely replaced by new tongue-and-groove wood. Removal of the old ceiling revealed dust, dirt, soot and no shortage of old wasp nests.



Not all the car is wooden construction. There are truss rods that extend through the framing at intervals throughout the car, both vertically and horizontally. The horizontal rods pass through the floor sills and are fixed at each end of the sills. The vertical truss rods pass through the wall framing between the windows. There

✂ 2009 ✂

With the Trolley Museum location finalized, plans were made to establish a work site. No. 252/470 was over forty feet long and, because it would not be stored in the roundhouse, it would need to be protected from the elements.

Before the Sleeper could be trucked from Chama to its new who-knows-how-long-term home, the Trolley Museum site needed some preparation for its arrival.



A large shipping container was delivered to the site to be the tool and car shop. The semi-trailer from Black Forest was moved in for storage.

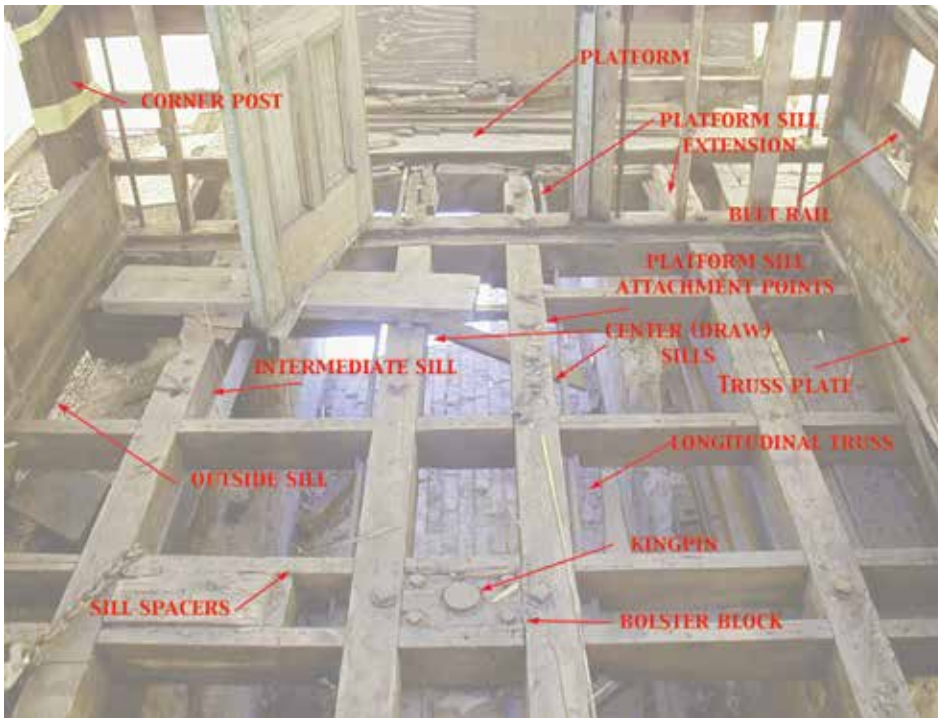
Rails were added to the sides of the service pit to support the cribbing that would then support the truck-less Pullman.

On August 9, 2009, the car was loaded

✂ 2010 ✂

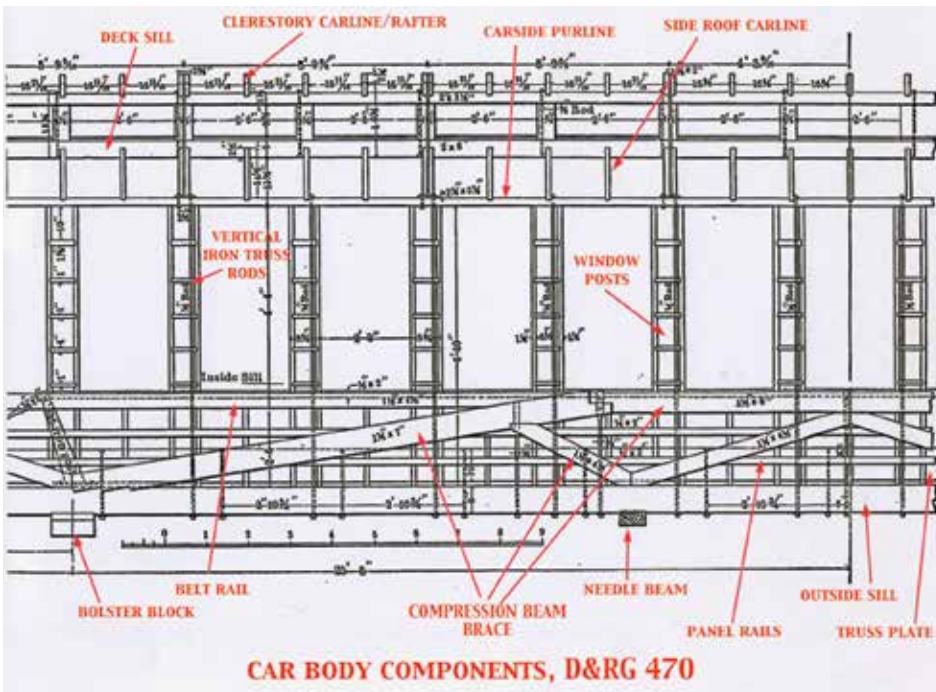


During the deconstruction, Craig found the number "470" penciled inside several of siding boards, confirming that this car was indeed Tourist Sleeper 470, the last of that series of cars built by Pullman. No longer was she Car 0252.



Mary Jane and Marshall Smith and Rosemary Sandell

The crew attacked the floor and found two layers of flooring on top of the frame sills, as well as sheeting on the underside of the car. With the floor removed, they could see the complex framing and arrangement of some of the truss rods that kept the car square and intact.



On a layer below the top layer of flooring, there was an inset plaque with the letters "D&RGRR," and the date "1887." The plaque covered the kingpin for the trucks at the bolster at one end of the car. There was no similar casting at the other end, though it may have been lost. 1887 was when the plate was cast and the D&RG began receiving the car fleet. It's believed that No. 470 was built in 1889, the last of the series. Later, repairs were made to damaged sills and the plaque was probably replaced with the earlier casting.



are also vertical truss rods attaching the structural framing to the sills. These were all revealed as the interior and exterior surfaces were removed, exposing the skeleton frame of the car.

Steel arch braces in the roof structure, spaced periodically between the wooden



roof arches, are called carlines. They provide support for the framing between clerestory windows that run the length of the roof of the car, then follow the curve of the roof below the clerestory and are fastened to the sill plate at the roof edge.

The vertical posts in the corner of the car where the old icebox had been built (when it was a maintenance-of-way car) needed replacing, and Craig began fabricating new ones. There was considerable deterioration in this area.



Craig McMullen

Under the icebox was also one of the major sills that make up the frame of the

car and it too was in very poor condition from water damage. Replacing this sill, or a portion of it, would be a major project down the road.



The ends of the car have their own unique framing that was exposed when the original tongue-and-groove sheathing was removed.

Notice the #9 above the door from its time on the Colorado & Northwestern Railroad.

In mid-November, the canvas tent arrived and was installed on the metal hoops that had been waiting since spring.



2011

With the cocoon tent in place, the neoprene cover that protected the roof could finally be removed so the crew could assess the overall condition of top of the car.



Rosemary Sandell

Rosemary Sandell attacked the metal sheathing that covers the wooden roof decking. Sadly, Rosemary passed away not long after this photo. We miss her hard work and do-anything spirit.

With the metal sheathing gone, the roof decking was evaluated and while much of it wasn't in terrible shape, it was decided to replace the decking on the entire car.

Meanwhile, Craig and Ray Hoppes began dismantling the west end of the car. George Boyson and Rich Weitzel removed the end platform and cleaned up the framing. Some large framing members, including one of the outer sills, were fully rotted and in need of replacement.



Most of the tie rods were rusted as well and all would need to be replaced. Craig located the stock locally, but they still needed to be cut to length and threaded.



John Manion and Bob McCain

Volunteers convened at Craig's workshop to construct a laminated beam to replace the dilapidated portion of the lower north sill. After planing, pieces were then laid out, with the first two joined with a lap joint end-to-end. Subsequent pieces were cut so that the breaks were in different locations. Glue was applied to each layer, and clamps applied at close inter-



This Disposition Tracer was found while dismantling the west end roof. Dated November 29, 1939, it is from when D&RGW 0252 was an Outfit Car for maintenance of way crews. During that period it served as a temporary Railway Express Agency office several times during remodels of various stations in the D&RGW system.



vals along the length of the beam.

The following day, another piece was glued onto one side of the beam to span the edges of the pieces that were glued together previously.

The sill needing replacement is the lower one adjacent to the new beam (below.) The splice was tapered at the joint to fit seamlessly with

the original sill and notched to prevent movement when in motion or during hard impact events such as coupling.



Before it could be installed, however, it had to be decided how to remove the old sill and create the mortise holes for the uprights in the replaced piece.



Once the mortise locations were marked, Craig began the somewhat-tedious process of chiseling out each of the mortise holes.



George Boysen, Tom Fitzgerald and Craig McMullen

Craig also constructed new arched carlines to replace the existing members supporting the roof below the clerestory.



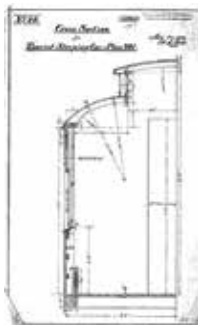
John Eng and Craig McMullen

Installed, one can see the deteriorated members have been replaced. They appear lighter than the old ones.



All in all, the combined framing of the roof and clerestory is amazingly complex, particularly at the ends of the car.

Without most of the vertical tie rods in place, additional support for the entire framework was needed.



On both ends of the car's interior there was a storage cabinet that also included a small mysterious hole. The hole was for a pull cord to the locomotive for an emergency warning or stop signal.



New framing was added to one end of the car. The other end is slated for replacement in the future.

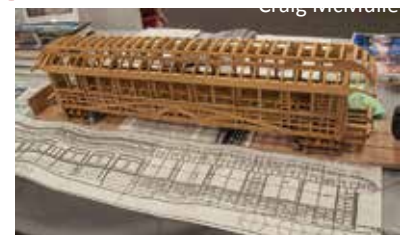
Along with the car ends, new body bolster compression beam braces were installed in several locations around the car's sides where older bars appeared to be questionable. The severely-rotted side sill can be seen below the new compression beam.



Craig was busy in his shop milling, mortising and notching stock to create a window sill and a test window frame to make sure everything fit. There are twenty-eight main windows in the car, not counting the other twenty-eight windows that make up both sides of the clerestory roof. Craig would also be producing various smaller pieces of trim that will adorn the exterior of the car.



Craig McMullen



"After we stripped the interior and exterior siding from the car, I was intrigued by how clever the structural bracing and overall construction was done. I decided to make a 1:20.3 scale model, as accurately as possible, as a winter project. It was a fun project and we have used the model at train shows"

Craig McMullen



The next steps in the restoration would be the most complex and time-consuming of the restoration. It involved some serious engineering, not something that a

bunch of Friends volunteers normally takes on.

In the following story, Project Supervisor John Eng describes the process of reinforcing the frame of the car to bring it up to modern railroad standards, including working drawings and plans created by Glenn Hall. These steel reinforcement tasks took place over many work sessions at the Trolley Museum between 2010 and 2013. Thus, this multi-step process is presented in one report, out of step with many of the other related projects presented here chronologically.

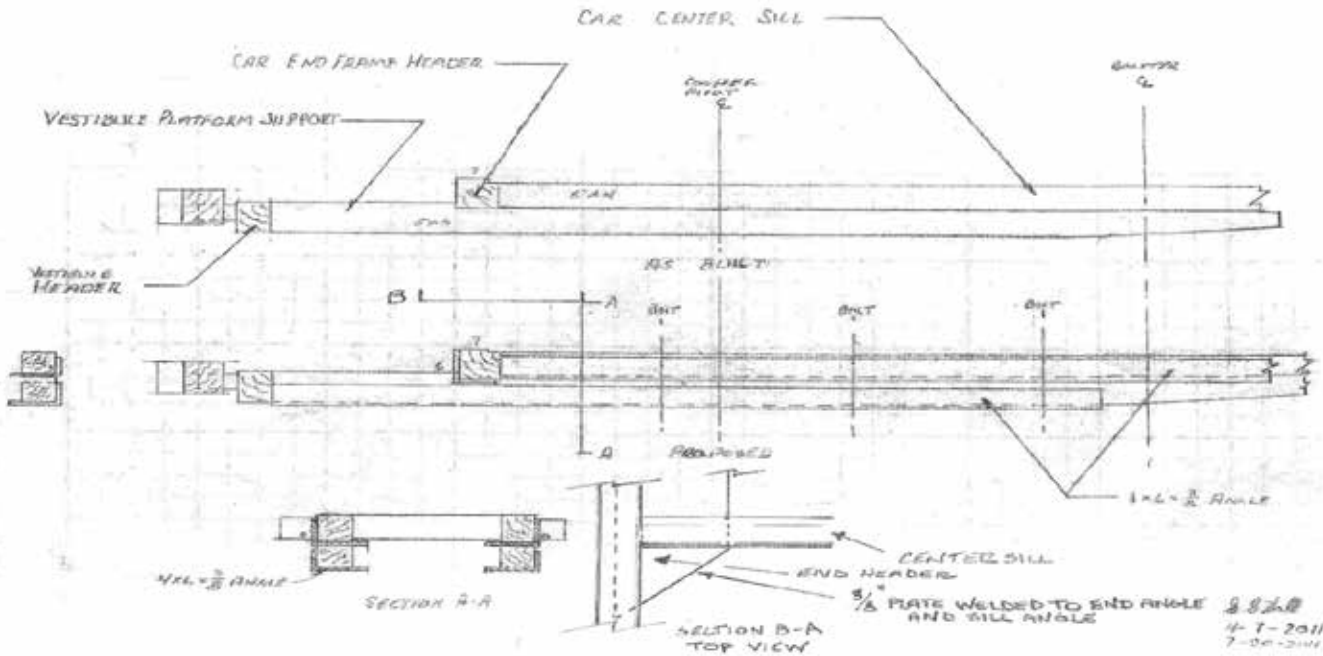
Thanks are due to John Eng and the late Glenn Hall, an engineer by trade, as well as the many other volunteers who assisted in the process. Glenn's talents were amazing when it came to knowing what to do, when, and how to do it efficiently and correctly.

Following the description of these two years of steel engineering and installation, the chronological restoration work of Car 470 will continue on page 15.



John Eng, Tom Simco, Glenn Hall and Craig McMullen

Steel Support for Wood Frame Structure, 2010–2013 by John Eng



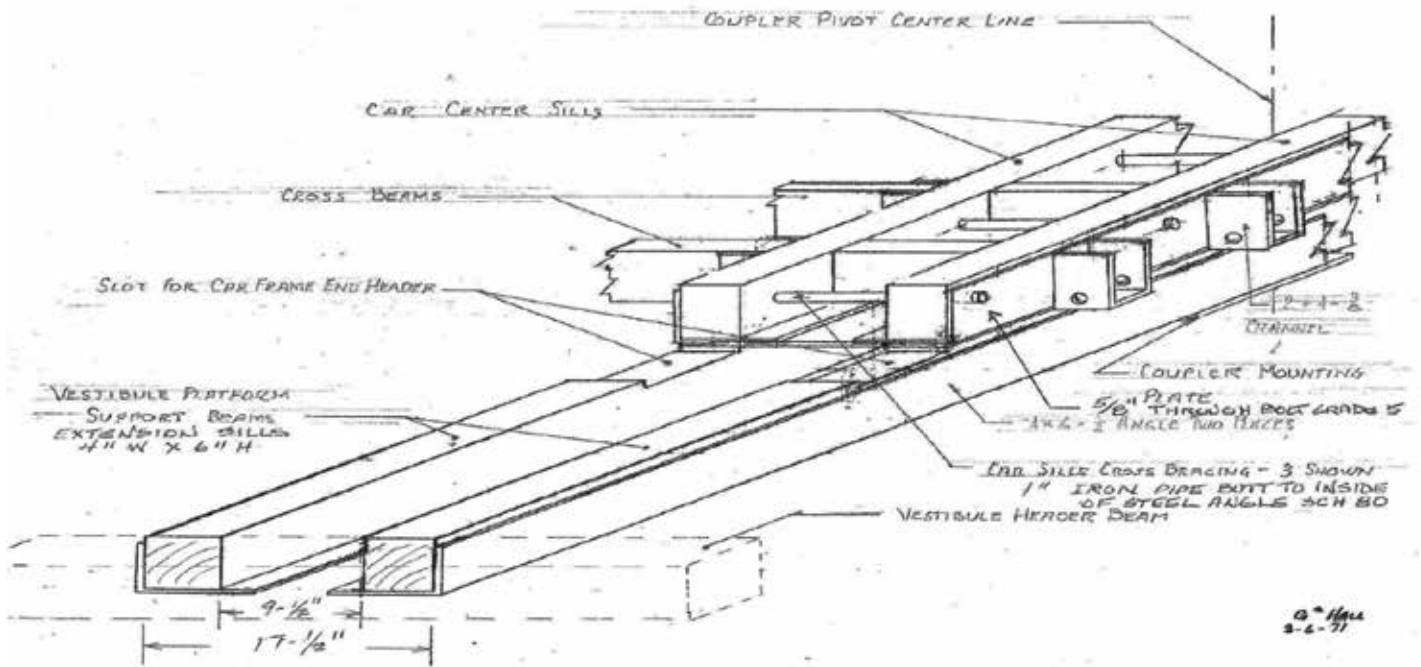
Early Design Proposal Drawn by Glenn Hall, April 7, 2011

In 2009, the C&TS Commission could not envision how a historic car such as Car 470 could be roadable other than by being a part of the existing steel passenger fleet. But if Car 470 was to be operational on the Railroad, it would need to have a steel structural support from coupler to coupler. At that time there was only one car, a non-historic caboose, that had been modified during reconstruction using steel tube for the center sills. The idea of utilizing steel in wooden cars was, to say the least, unique to the C&TS. A dilemma developed in considering the use of steel in a historic car restoration as the Secretary of the Interior Standards did not allow the *complete* replacement with a different type of material such as steel. Still, the goal was to restore Car 470 to its original condition when leaving the factory in October of 1889. After consulting with a number of authorities in restoration, it was determined that we should not destroy the car's existing framework. That meant installing steel as had previously been done on the RPO cars by the D&RGW. With that method in mind, we came up with a design that wrapped the center sills to provide both horizontal and longitudinal support as well as providing a continuous steel member from one

coupler to the other.

To achieve this "wrap" we would need to utilize two sections of steel angle iron $\frac{3}{8}$ " thick x 4" wide x 5- $\frac{1}{2}$ " high. That would require an outside lap of both center sills. Since the frame was just over 41 feet, we would need to have a splice which would tie both twenty-foot sections of steel together and allow for the additional foot in the splice. That piece would actually have two splice points requiring an off-set bolt arrangement and a bead of weld around each of





Final Design Drawn by Glenn Hall, August 6, 2011



the two individual joints. With the center joints completed on both sets, it was time to remove all wood cross bracing between the intermediate and center sills as well as pulling out all horizontal tie rods to free access to the outside of both center sills.

The next step was to test-fit the steel to each center sill for marking. A long center punch was used to mark each tie-rod location approximately every two feet down the car. It was also



necessary to mark locations on the steel where the "ladder rung" system (similar to an extension ladder) could pass through without obstruction from wood bracing or tie rods. This

design would use the steel like the rails in a ladder and utilize Schedule 80, 1" pipe for the rungs.

Upon removal of the steel after the test fit, a lot of drilling was necessary. All marked tie-rod holes were drilled to $\frac{5}{8}$ " to allow the $\frac{1}{2}$ " tie rods to pass through the steel. All markings for the rungs were drilled on the center line of the vertical side of the angle, with a $\frac{13}{16}$ " hole in the steel. Because of the amount of drilling and accuracy required, a magnetic drill was used.

After the drilling was completed, the two steel angles were again attached for test fit on the sills. With a little adjustment all the tie rods were pushed through the two center sills and steel. Next it was necessary to use a right-angle drill to drill the

location of each rung. A rotary bit was used to drill through the wood center sills for each rung using a $\frac{13}{16}$ " bit.

After the rungs were drilled, the tie rods were again pulled free and the steel angle was again removed. At that point it was necessary to align the two holes drilled through the two wood sills for the rungs, again using a $\frac{13}{16}$ " bit. Next, each of the rung holes through both sills were enlarged to $1\frac{1}{4}$ " which would accept the Schedule 80, 1" pipe.



With that complete, the pipe rungs were ready to install. Each rung was cut to a specific length, measured from outside to outside on the center sills at each rung location. The cut pipe was slid into position and the steel angles were installed for the last time. Each move of the steel angle took six people because of its length and weight.



Each angle iron was fit into position and tie rods pushed through to the outside sill. Then $\frac{3}{4}$ " rod was used to align each rung position.



When all were fitted, the horizontal 1/2" tie rods were replaced with new rod and loosely tightened.

Special high tensile Grade-8 bolts, 3/4" in diameter, were installed to compress the steel together, against the Schedule 80 pipe. Each was tightened to 200 foot-pounds.



The effect was a rigid structural steel member through the center of the car. On the outside of each end sill, a 5/8" thick angle iron was installed. A "gusset" plate was welded at each end of the car which tied the end-sill steel and the two center steel pieces

together at both ends. This resulted in all four pieces of steel all being connected.

To stabilize the truck pin, a steel plate was welded at the

bolster pin between the two steel angles and the plate drilled for the bolster pin size.

The next challenge was to manufacture three-tab saddles to hold wood cross-bracing from the intermediate sill. The saddles would then be welded into position on the steel angle at each cross-brace location. Each of the cross braces removed previously were shortened and reused to fit in the saddle, which amounted to approximately a 3/4" cutoff.

With these steel additions in place, 470's undercarriage was now strengthened and could eventually become part of safe, strong passenger train while at the same time maintaining its historical character.



Continued from Page 13

With the steel undercarriage mostly complete, work now turned to structural reinforcement above the frame itself, including a steel frame that externally runs the length of the car.



Each end is anchored through the sill at the end of the car and each end of the brace has threaded tie rods that pass through the sill, capped with now well-rusted nuts.



2012

January: Out with the old, in with the new... side sill. The tapered splice to join the old and new portions of the sill was really quite impressive.

On New Year's Eve day, several hardy souls removed the east half of the north sill that had rotted from the water from the icebox. On the first work day of the new year the new sill was fitted in place.



Craig McMullen and Tom Simco

The framing was mortised into the top of the old and new sills. The remain-

ing undamaged section of the original sill was joined with the new piece with a long taper.



The ends of the tapers were squared off to prevent slippage with compression forces. The joint between the old and new portions of the sill were secured with epoxy and bolted with three bolts.



Bob Kohler and George Boyser

Working from below, the nuts securing tie rods that pass vertically through the 2x10 plate, on edge along the lower side of the car and down through the

outer sill, were removed.

At both ends of the car, a solid steel plate would be installed over the door to reinforce the car's overall strength. This piece



had to be carefully shaped to match the unique arc of the roof and the framing of the door. Adding to that, each end of the car is slightly different. An equally unique protractor was devised to strike the arc of the roof line.

Based on the measurements, a

Shorter pieces were welded to the longer one to make an X over the framing and under the siding of each wall next to the doors.

At this point, the structural steel frame reinforcement had not yet been installed so the ends of the car tended to droop due to the flexibility of the still-wooden frame.



I-beams were placed under the car where the bolsters (and trucks) would be, creating a solid base. The car was jacked up to make room for the I-beams and the two-year steel frame reinforcement work described on pp. 13-15 could now begin.

The original stabilizing blocks in the sides of the car were glued in place with old-style horse-hide-based glue. Duncan Burdick sanded out the glue so the new blocks would fit.



Duncan Burdick

The new blocks were then set in place. The small triangular pieces fit inside the car behind the block and were glued to the block and the frame.



No horses were harmed in the gluing process.



2013

NOTE: Much of 2013 was dedicated to reinforcing the under-car sills as outlined on pp. 13-15. By fall, work returned to the body of the car, starting with creating new extension sills for the two end platforms and some exterior trim.

Both end platforms were in very poor condition, largely rotted out due to their exposure to the elements. However, the sills under the main portion of the car, now strengthened, do not extend to include the platforms. Instead, they are supported by sill extensions attached to the main sills. New end sills were needed to replace the thoroughly rotten end platforms.

Craig cut and laminated the sill extensions in his shop.



"You can't have too many pipe clamps." *Craig McMullen*



The end sills were then drilled for installation with the car sills and checked before final assembly.

To attach the sill extensions to the existing sills required some steel joints and the sills notched to receive them.



Glenn Hall and Tom Simco



Lenny Seidman



different wooden pattern was made for each end before cutting the steel.

Once in place, this created a "cage" of steel to provide rigidity at each end of the car along with the steel running the length of the car.

The upper plate was welded to flat pieces of steel, which in turn were welded to the large angle steel that goes across the end sill.

Part of the supporting frame on the underside of the car is the needle beam that supports the queen posts, which in turn support the under-car truss rods that carry the center weight of the car.



Because of their integral role in the overall strength of the car, the existing needle beams were reinforced with new steel channel material. The work with the needle beams would resume when the tie rods were ready for installation.

Some of the last pieces of steel fitted were braces in the upper corners of the car, adding strength and stability by creating a "structural box."



John Eng and Lenny Seidman

One end was bent at a ninety-degree angle and welded to the inside of the plate secured to the end of the car. The other end was welded to an angle piece bolted to the upper sill.



Welding of all the steel pieces was completed to make a continuous steel frame from coupler to coupler as required by FRA regulations.



Interior and exterior wooden members of the car that would not be protected with primer and paint were given a sealant coat of linseed oil.



Rich Weitzel

This included the interior wooden carlines of the room and the clerestory and



Bill Lowes

the stability blocks between the framing on the sides and ends of the car.

2014

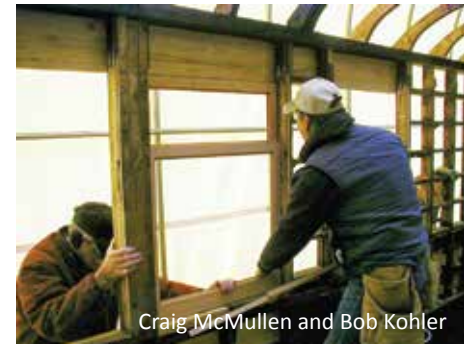
Continuing with a project begun back in 2011, Craig was building 470's window frames in his shop.



The original upper frame was held in place with a peg that fits into a groove in the wood above. The upper frames were put in place by inserting the peg in the groove, then pushing the lower part in over the shelf in the molding along the side of the window. They could be removed if needed to replace glass by reversing the process.

In January, they began installing the windows. The new windows would be installed in two pieces, a fixed upper pane and a lower pane that can be raised

and lowered for ventilation.



Craig McMullen and Bob Kohler

One of the car's end platforms was completed last year. Now, the second



installation took place. The second set of sill extensions was completed in Craig's shop, made with multiple laminated layers of white oak.



Craig McMullen

The end sill was mortised into the sill extensions. Craig did much of the mortise work with a router, cleaned up with a chisel.



It took a bunch of stalwart guys to lift the heavy end sill into place.



The tenons were then slipped into the mortise holes.
In the end, it was a perfect fit!



A group of volunteers traveled to the Ulrich Locomotive Works in Strasburg, Colorado, who fabricated replica bolster parts based on the bolsters that had been removed from the car when it was scrapped.



Bob Kohler

The holes drilled in the centers of the bows are for the kingpins that allow the trucks to turn. The straight piece beneath the metal was left on the car. The bolsters were installed with the arch down and bolted together.

But when the east end bolster was installed, it was found there was a problem: the bolster extended beyond the sill. This meant the car was too narrow in this area.

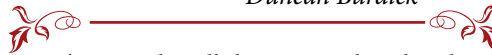


“The **bolsters** are the points where the car body rests on the trucks and may be considered to be analogous to springs on an automobile. There are two bolsters on 470 and two parts to each, a straight flat piece of steel against the car and a slightly bowed piece of steel attached underneath that rests on the truck. There are plates that allow for the trucks to turn in relation to the car.



“All of these pieces had to be fabricated except for the flat steel members of the bolsters, which were left on the car when it was dismantled.”

Duncan Burdick



This was the sill that was replaced early on because of rot, and apparently warped or shifted during or after replacement.



Tom Simco

So the sill needed to be shifted outward. This meant removing the old framing pieces and removing the metal bracket holding it against the outer sill. This also meant removing the outer framing pieces, loosening the tie rods, and jacking



John Engs

the sill sideways with a hydraulic jack. The inner end was mortised into the intermediate sill.

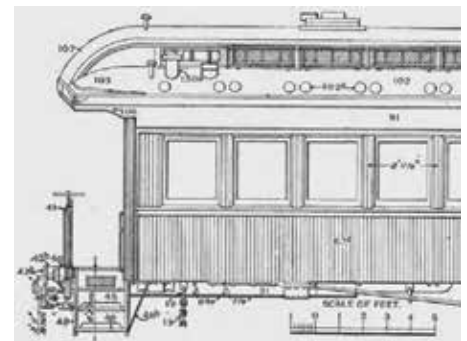
It was a bit of a domino effect, as this



John Engs

meant that the framing braces had to be redone as well in that segment of the sill, which then required that the tie rods needed be remade to the new and correct width of the car.

With much of the integral frame and skeleton complete, the crew began focusing on the exterior of the car, beginning with letterboards. The letterboards are wide boards that extend the length of the car over the windows and under the cornice, which often displayed the name of the company that owned the car.



Work on the letterboards spanned a rather long period of time as other things were happening concurrently. Craig brought shop-built letterboards, ready to be fitted.

There is a groove below for the windows and a curve above to fit the pitch of the roof. The grooves along the upper side of the board fit around the verticals on the side of the car.

The boards were clamped in place be-





Bob Kohler and Craig McMullen

fore finally screwing it on to the car.
The screw holes were then filled and



Don Atkinson and Jim King

sanded smooth.
The corners replicated the original



dovetail joint. Here part of the arched end piece could be salvaged and just the dovetail corner was replaced.

The most obvious change in appear-



ance in 2014 was the beginning of the preparation and installation of the roof decking. It was much easier to oil the roof boards prior to installation.

The old nail holes were puttied and



Jim King, Don Atkinson and John Eng



sanded smooth, and new tongue and groove decking was installed, piece by piece.

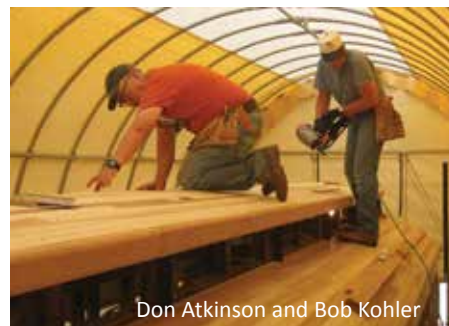
With the decking complete on the main



roof of the car, work began on topping of the clerestory.

The ends of the roof and clerestory decking posed another interesting engineering problem: how to add roof decking to a double compound curve.

The solution was "bendy plywood."



Don Atkinson and Bob Kohler

In the fall of 2014, Project Coordinator John Eng compiled a summary of the volunteer hours between September 2013 and August 2014. Note that this summarizes only *one year* of the five-plus years represented in this issue of the *Dispatch*. There would be at least five more years of work to be done before No. 470 would be complete and ready to be put back into revenue service.

Putting that into perspective, the 11,000 hours of collective volunteer activities, calculated at \$20 per hour, reflected a skilled labor cost worth over \$22,000. Note that these figures do not include the work being performed at the Antonito Car Repair Facility by volunteers such as Ian Kelly, Russ Hanscom, John Weiss and others, who were preparing the trucks and other hardware during that same 2013-2014 period.

They, along with the nineteen Colorado Springs volunteers listed below (as well as others who were not on the volunteer list for that particular period of time), deserve a hearty "Thank you," not only for the work so far, but upon completion of the project, a "Thank you!" from the employees, passengers and volunteers far into the future as Car 470 plies the rails of the Cumbres & Toltec Scenic Railroad.

**SUMMARY OF WORK HOURS
COLORADO SPRINGS WORK SITE
September 2013 through August 2014**

Don Atkinson	8.00
Duncan Burdick	86.25
John Eng	132.50
Tom Fitzgerald	6.25
Bob Gee	9.00
Glenn Hall	99.75
Ray Hoppes	24.00
Ron Schaefer	52.25
Bill Kepner	7.00
Bill Keene	7.00
Bob Kohler	103.75
Bill Lowes	92.25
John Manion	29.25
Craig McMullen	215.75
Maggie McMullen	2.00
Bruce Grazier	3.50
Lenny Seidman	103.50
Tom Simco	146.75
Rich Weitzel	7.50

TOTAL HOURS: 1103.25

1,100 hours per year based on 2013-14
total @ \$20 per hour = \$22,065



Don Atkinson

Sheets of this material were cut into strips and fastened onto the framing at right angles.

A second layer was added in the same orientation but offset a half strip width for increased strength. Filler was applied over the surface and the roof was sanded smooth to complete the job.

There was still work to be done under



2015

the car, including drilling the hole for the center pin for the truck with the magnetic drill, an awkward but necessary process.

Back up top, work continued on the



John Eng and Tom Simco



clerestory soffit. Access was an issue but working on the outside from the inside of



Don Atkinson and Jim King

the car seemed easiest.

The upper sashes of the lower car win-



dows were prepared. As yet there was no glass in any of the windows.

Underside work was still going on with



John Eng, Don Atkinson and Debbie McDonald

the installation of the first needle beam.

This was followed by lifting the bottom



Ron Schaefer and Bill Lowes

bolster plate into position and bolting it in.

There are several tie rods in each of the

end platforms. As with the other tie rods, these help pull the structure together into one complete unit.

They tie into the end sills and continue



Tom Simco

under the car.

Feeding them through the undercar-



riage structure took some time and a little bit of bending. The platform tie rods were in place but were not yet drilled through the platform end sills. There are six rods in each platform with three on each side.

The rods had to be bent to be threaded through the sills of the car. Some of the tie rods were bent by hand, but a borrowed hydraulic bender made things easier by placing the tie rod between two



Bill Lowes and John Eng



guides and jacking the center to force the bend, yet another creative solution to an

interesting problem.

One end of the rods next to the inner sill was hooked on to the bolster. The other rod near the inner sill was hooked on to the end sill of the car and was fixed in place with a lag bolt.

Also on the underside of the car, several



John Engs



additional holes needed to be drilled with the magic drill that attaches itself to the steel magnetically.

As the project moved into 2016, much



of the underside work was complete but truss rods, queen posts and bolster pivots still needed to be installed in Colorado Springs before the car could be moved to the CRF in Antonito. A lot of work still needed to be done.



❧ 2016-2021 ❧

The volunteers might not have realized it quite yet, but the end of 2015 marked approximately the halfway point in the restoration of Tourist Sleeper 470. While a definite completion date was not carved in stone, the 50th anniversary of the Cumbres & Toltec Scenic Railroad was coming around the bend in 2020 and it was hoped to have the car completed and road-worthy by that date.

The COVID-19 pandemic forestalled the Anniversary event and pushed both the celebration and the completion of No. 470 into the 2021 season.



That may have been advantageous, as at the start of 2016

there was still a lot of work to be done. In Antonito, replica passenger trucks were being created from scratch in the Car Repair Facility (see the Winter 2020 issue of the *C&TS Dispatch*). The car still needed coupler and brake rigging, both of which would be necessary to create to prepare the car for use.

Furthermore, the complete 19th century Pullman interior still needed to be created and installed, based only on the few drawings and plans that existed.

The story of this historic restoration will continue in the next issue of the *C&TS Dispatch*, including the preparation of the undercarriage for truss rods, trucks and couplers, completion of the exterior tongue-and-groove sheathing, new metal sheathing for the roof, installation of the windows and all of the interior seating and finish, right down to the reproduction of even the smallest brass details.

On September 18, 2020, Car 470 was shipped back to the CRF in Antonito where the final details that will bring 470 back to life will be completed.

In 2021, No. 470 becomes part of the historic C&TS 1889 train set that includes Locomotive 168, Railway Post Office Car 65, and Coaches 256 and 292, ready to travel once again over the Cumbres & Toltec Scenic Railroad.

All this and more in the Summer issue of the *C&TS Dispatch*!



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If you love trains, history and volunteer activities, JOIN US as we help preserve the "Living History" of the Cumbres & Toltec Scenic Railroad.

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My check for \$ _____ is enclosed, or

Charge my Visa / MC / Discover/Amex [circle one] for \$ _____

Card # _____

Exp. Date _____

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D&RG COACH 292: A DIAMOND IN THE ROUGH

Pullman Tourist Sleeper 470 wasn't the only restoration project going on around the Cumbres & Toltec Scenic Railroad in recent years. Along with the complete restoration of 1883 4-6-0 No. 168 (see the *C&TS Dispatch*, Fall 2020), three other 19th century passenger cars were restored in Antonito by the Railroad's Special Projects staff, led by Efstathios "Stathi" Pappas. Coach Nos. 256 and 292 have been rebuilt to their former glory, and the interior of Railway Post Office Car No. 65 was converted into a "stealth" concession car interior and an historic RPO exterior. Both 256 and RPO 65 will join Tourist Sleeper 470 and Locomotive 168 to create a historic 19th century train set that will roll for the first time in the summer of 2021.



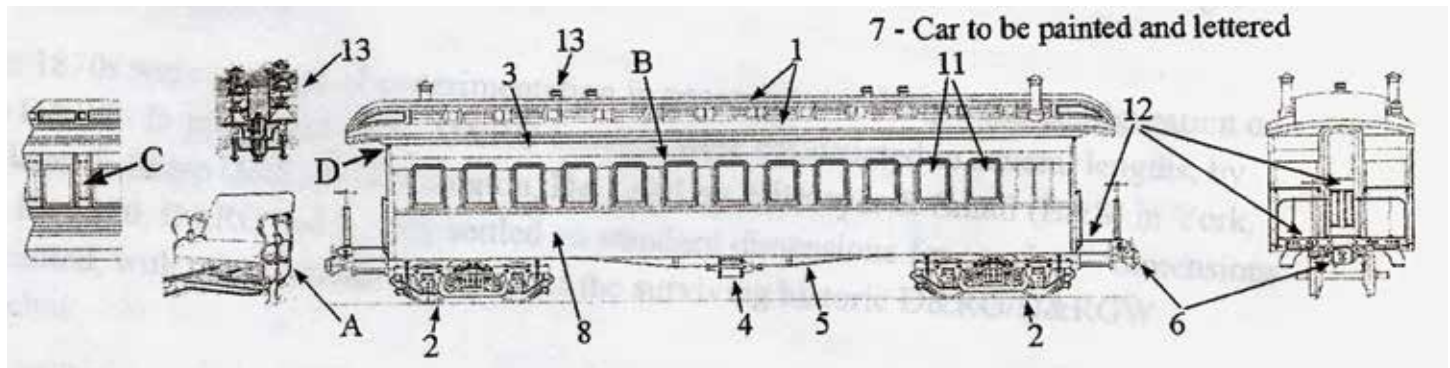
Perhaps the most spectacular of these cars is Coach 292. Coach 292 is a remarkable survivor and a classic example of the standard D&RG coach design of the 1880s. Despite the large number of modifications that the Railroad often applied to other cars over the years, Coach 292 received relatively few changes after it left the factory.

One of 58 cars built by Jackson & Sharp in Wilmington, Delaware in 1881 at a cost of \$3,396.64, the car arrived as D&RG Coach No. 68. It was renumbered as 292 in 1886.

Over the years a number of modifications were made to the windows and platform roof designs on many of the D&RG coaches. Still No. 292 was spared a lot of these desecrations. Some changes were positive: the dangerous Miller couplers were replaced with Janney automatic couplers and five-wheel "Pullman" trucks to make it both safer for the brakemen and more comfortable for the passengers.



COACH NO. 292: CHARACTER-DEFINING FEATURES



Character-defining features in common with other passenger-train cars:

1. Clerestory roof (raised center section with windows on sides of raised section).
2. Passenger-style trucks (to be replaced during rehabilitation.)
3. Letter boards on the car sides above windows.
4. Air brake system.
5. Truss rods under car for support.
6. Couplers on the ends.
7. Painted and lettered standard D&RG passenger train colors and style; red body to 1918, green body after 1918, gold leaf or "deluxe" yellow paint lettering.
8. Wood siding.

Character-defining features in common with other passenger-carrying cars:

11. Many windows on the sides.
12. End platforms with doors to the interior.
13. Ceiling lamps and vents (to be replaced by LCD fittings during restoration.)

Character-defining features specific to this car:

- A. Butin cast coach seat ends.
- B. Single-light round corner Jackson & Sharp-style windows.
- C. Interior wall panels and finish.
- D. Cast iron corner post decoration.

A D&RG Official roster dated June 1, 1891, lists Coach 292 as 38 feet 4 inches long, 8 feet 0 inches wide, 12 feet 9 inches high, weighing 27,750 pounds. It was equipped with a stove, oil lamps, one toilet and seating for 45 passengers. The original stoves used to heat the car were Spear-patented “anti-clinker” models, typically two per car in opposite corners. Early in the 20th century, the stoves were replaced with classic D&RG potbelly stoves.



No. 292 remained in passenger service until 1928 when it was retired and converted into Outfit Car 0292. Seats were removed and modifications were made to the windows.

After years of non-revenue use, it and other outfit cars sat at Elk Park of the Silverton Branch for many years.

In 1946 and 1947, it was described in D&RGW records as Operator’s Car B-6. From 1954 to 1956, it was listed as a “living car.” Between 1959 and 1963, it was once again described as Operator’s Car 17-B. In the 1960s, 0292 was relettered “Office Car,” lettering that was still visible before restoration.



The car was given to a private party in 1981 in lieu of work someone did for the D&RGW. This occurred at the same time as the sale of the D&RGW Silverton Branch to the Durango & Silverton Narrow Gauge Railroad.

Sometime in the 1980s, 0292 was purchased by Sam Bass of Silverton. In 1988, Craig and Robin Kumler purchased the car from Sam Bass. In March of 1993, the Kumlers sold the car to the Friends of the Cumbres & Toltec.

As a coach, No. 292 is an example of one of the most iconic and common styles of railroad passenger cars and has had relatively few changes between its 1881 construction, its 1928 retirement from passenger service, and its later conversion to maintenance-of-way service.

Restoration of Coach 292 to its original configuration was completed in May of 2018.

Original data sources:

Herb Danneman
D&RGW Valuation Records
C&TS Dispatch
Sam Bass
Stathi Pappaas
Craig and Robin Kumler



Photos by Don Atkinson, Chris James and Stathi Pappas



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Glenn Hall and John Eng measure and take notes on the construction of one of the end platforms of Pullman Tourist Sleeper 470 near the beginning of its eleven-year restoration. *Photo by Duncan Burdick*