

BIG STEAM NEWS

NEW MEXICO STEAM LOCOMOTIVE & RAILROAD HISTORICAL SOCIETY

Quarterly Newsletter

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With 2926

SANTA FE 2926 is
NEW MEXICO True



Machining And Assembly Tasks

Replication of rusted, damaged or missing parts has kept the 2926 machinists busy making those that cannot be bought locally. In the first photo, John M. is producing some of the many small parts (Photo 2) needed for completion of the restoration.

Several of the tasks currently underway involve components that did not exist when 2926 was in operation. Typical of such items is the electrical distribution box (Photo 3) that Perry B. is assembling.

Braking, lighting and related electrical components that are currently required either did not exist, or were not required when the locomotive was in operation. Design, production, and installation of new components often presented a challenge to the volunteers.

Since some such items were not original, just finding a location to install them could be a serious time consuming task.



SUPPORT FOR ATSF 2926 FULL STEAM TESTING

In addition to all of the task activity that will lead to the first steam up of Santa Fe 2926 came some good news from a very important source—the owner of the rails upon which 2926 once operated, BNSF Railway. That good news was in the form of a \$5000 check from the BNSF Railway Foundation. The check was a response to a request by NMSLRHS member Chuck Mangold. Once Chuck moved away from Albuquerque, he was no longer available for the greasy work sessions he enjoyed. However, he is an excellent proposal writer, working long distance from Ohio.

The first line of a response letter to Chuck from Joe Sloan, BNSF Railway Public Affairs Director for Colorado, Oklahoma and New Mexico reads:

“On behalf of the BNSF Railway Foundation, please accept the enclosed \$5000.00 contribution towards the Locomotive ATSF Full Steam Testing.”

THANKS TO BNSF FOR HELPING SAVE A RAIL HERITAGE ICON

INSULATION AND JACKETING

THE COMPLICATED TASKS TO RECREATE A LIKE NEW APPEARANCE FOR SANTA FE 2926

A glance at the two pictures below would seem to indicate that putting new sheet metal jacketing on 2926 would be little more difficult than replacing sheet metal on an automobile. Though the 2926 crew did have a lot of help from some skilled automotive metal specialists, the job was difficult and very time consuming. The first picture below shows 2926 before half a century rusting away in Coronado park. The second picture, taken a few weeks ago, reveals the many pipes, bolts, and related components that will be insulated and shielded with sheet metal jacketing to return 2926 to its original appearance.



There are numerous steps necessary to achieve this goal. The 2926 volunteers put many hours of labor into the insulating and jacketing project. They also needed help from local sheet metal and paint shops. Several of the resulting tasks are described in the following pages.

Sheet Metal Jacketing

This task began by retrieving the old pieces of jacketing from storage. Most were in very sad condition. They were rusty, full of holes, and in some cases very fragile. One positive feature was that they were all numbered when removed in 2007 (Photo at Right). That foresight when removing the jacketing allowed the crew to start with an approximate location for each piece.

Like pieces of a jigsaw puzzle, the jacketing came in many shapes and sizes. There were some large flattened segments from the sides and top of the boiler and smokebox. Then there were many small complex pieces that fit in, around, and over a wide range of impediments. The backhead, with its many controls, gauges, and appliances was especially challenging as were pieces near moving parts on the locomotive. The photos below provide a brief look at the beginning of the pattern development stage. Many more photos can be found at the NMSLRHS web site <http://www.nmslrhs.org/>



Right & Above: Sheet metal jacketing parts pulled from storage. The numbering helped, but the pattern making crew was still faced with a challenge.



Above: Once the location of some of the large flat pieces of jacketing was identified, sheets of cardboard were used to create a pattern.

Right: Using brown paper on a work table or concrete slab, the pattern crew spread the rotted pieces of jacketing in as near to the original shape and size as possible. They then traced the shape on the paper. In some cases, the original pieces were so deteriorated that the pattern was close, but not exact. That required additional fitting and adjustments in place on the locomotive.



(Sheet Metal Continued From Page 2)

From Pattern To Metal

Once the patterns were drawn as accurately as possible on paper or cardboard, they were sent in batches to the sheet metal shop. There the patterns were used to cut and shape the jacket pieces. The newly formed pieces were then returned to the restoration site for exact fitting. That step was sometimes a very slow and tedious process. The following photos show some of that process.



Once the patterns were replicated in sheet metal, the newly formed jacket parts were returned to the site for exact fitting. The final fitting of the new jacket parts kept several members busy in final shaping, especially with the larger items (Photos 1,2,3). Some of the parts had many holes that were fitted with sleeves. Some of the small pieces pictured in photos 4 and 5 had many holes and sleeves. They had to be precise, and fitting them required a lot of time and patience.

After trimming, grinding, and maybe a bit of bending, the parts were ready for the next step. That next step was a final coat of glossy black paint. They were securely stored (Photo 6) to avoid damage until they could be hauled to the paint shop.

In Photo 7, Lewis and Martin are holding a piece of jacketing just returned from the paint shop. A few dozen more like that, and 2926 will wear a new metal coat. But before that can happen, there is the little issue of **Insulation**—a lot of it behind the new sheet metal jacket.

Acquiring And Installing Insulation

The original locomotive insulation was asbestos, mostly in blanket form. An asbestos paste was used in some difficult to access locations. Obviously, asbestos is no longer an option.

The material chosen to replace the original asbestos was calcium-silicate and ceramic fibre. The first, often referred to by its trade name CalSil, has a variety of form and uses. For the 2926 project, the blankets on the sides are woven ceramic fibre.

The insulation was purchased with a \$4,000 grant from the National Railroad Historical Society in 2016. It arrived on the restoration site early 2017. (Photo below).



With rolled blanket insulation, and a flat work table, trimming to fit jacketing pieces looks easy, (Photo 1 below). That was not always the case. There were many bolts, pipes, appliances, and other appurtenances on and around many areas where the insulation was to be fitted. That was especially true in the case of the backhead jacketing. Photo 2 Shows some of the cutting process. Photos of the complex fitting of insulation and jacketing on the backhead are on the next page.



Photo 1 provides a synoptic view of the 2926 backhead near the end of the insulation fitting process. That view may explain why some of the 2926 volunteers compare the jacketing and insulation task to a jigsaw puzzle. Photo 2 depicts the fitting of a single large piece jacket insulation around the firebox door. Photo 3 shows the backhead after insulation and some jacketing has been replaced along with a number of instruments and controls. The cutting and fitting of the jacket insulation was just as complex as the metal jacketing, but it was done on site. There was no running back and forth to the metal shop or paint shop. It did allow the volunteers the opportunity to gain some unusual experience. In Photo 4, it appears that Gary W. has the objective of becoming a master insulation hole cutter on his bucket list,

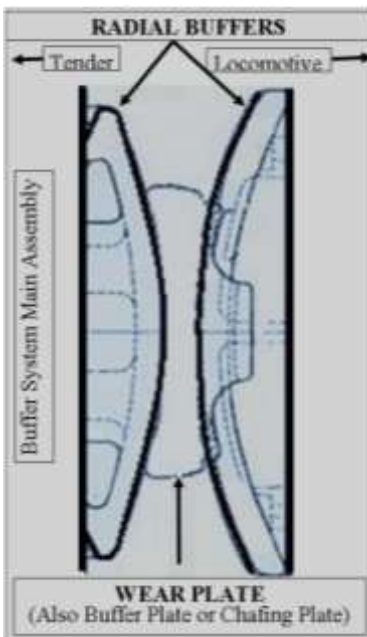
There is still a lot of sheet metal and insulation work to be done, but it is progressing well. By the time other last minute tasks



MAKING A NEW WEAR PLATE

Completing The Radial Buffer Connection

Parts replacement and reassembly of the radial buffer was described in the last newsletter. Then, only one small final component, remained. That was the expendable wear plate between the curved surfaces of the radial buffers. (Sketch at left). On site manufacture of a new wear plate revealed some of the best metal working skills of the 2926 volunteers. The three photos below depict the process. In the first, Ron T. is dressed for some extreme furnace heat. In the second, a future wear plate exists in liquid form. In the third, Lewis M. watches as Carlos O. works on the final product. See more photos of the wear plate production on the 2926 website.



A FEW MORE IMPORTANT TASKS

THE FIRST THREE MONTHS OF THE NEW YEAR WERE NOT ALL INSULATION, JACKETING, AND HOT METAL. AS THE RESTORATION NEARS COMPLETION, THERE ARE NUMEROUS SMALL NECESSARY TASKS, INCLUDING THE FOLLOWING.

Crew Accommodations

The last few months have seen a lot of activity in the 2926 cab. Most of the work was directed at controls, gauges, and related components necessary to allow the cabin crew to effectively and safely operate the locomotive.

But what about crew positions while operating?

Additional cab space was needed for components associated with the currently required brake system, and related control items. That created a need for adjustments to cab seating. The original four seats,—engineer, fireman, and an additional seat behind each—was changed to three full seats plus a jump seat in the now reduced space behind the engineer.

In the photo at right, Dave V. is shown working on the jump seat.

The new cab seats should be more comfortable than the originals. There is no truth to the rumor that we swiped the Recaro seats from someone's Porsche. They are really commercial over-the-road trucker's seats, and were donated, not swiped.



Locomotive And Tender Lettering

To date, many tasks involved the use of large equipment and tools, and a lot of grease, grime, rust, and soot. This task was just the opposite. It started with clean paper, drafting instruments, and a clean, quiet working area. It ended with tiny brushes in a cleaner setting.

The lettering task fell to Ernie R. whose association with 2926 was first recorded when the locomotive went on Coronado Park. He has a photo to prove the long term relationship. Photo 4 at right is a copy of that photo. It shows 9 year old Ernie standing in front of 2926 (lower right corner of photo) shortly after it was placed in retirement in Coronado park.

As an icon of New Mexico's rail heritage, lettering on Santa Fe 2926 and its tender must be precise and accurate to the finest detail. Ernie took his new task seriously.

A lifelong rail photographer and narrow gauge historian, he also proved to be pretty good at putting the locomotive's identification in its proper place, and doing it right. In Photo 1 at right, he is working quietly in the reefer preparing templates. In the second photo, he is carefully detailing the letters on the cab. The third photo shows the finished lettering on the tender.



Check And Recheck

Many small tasks the past three months have consisted of double and triple checking previous task work.

By the standards of maintenance and repair when the locomotive was operating, the term unconventional might well be applied to the years long restoration project. Thus, it was deemed necessary to use repetitious checking to be sure that all previous task work was complete, correct, and ready for operation.

During recent work sessions, several members could usually be seen with tools in hand checking bolts, nuts, and related fasteners and fittings.

In the photo at right Rob E., one of the founding members of the Society, is checking some of the myriad cotter pins and other retaining devices on previously secured bolts and nuts.



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VISITORS WELCOME

9:00 AM to 2:00 PM Wednesday and Saturday

LOOKING DOWN THE TRACK

More than sixty years have passed since Santa Fe 2926 last moved under its own power. The decades long inaction will soon change. We expect this will be the last issue of Big Steam News before the iconic locomotive will once again be under steam. That doesn't mean excursion operation is imminent, but it is getting close.

After first steam up will come testing, adjusting, and tweaking before Santa Fe 2926 can make a public appearance under steam.

Meanwhile, the long time routine of 2926 volunteers and supporters will face significant change. Operating as a mobile tourist attraction will mean many new and different tasks.

For the volunteers who enjoy mechanical work, there will still be plenty of work. Caring for the locomotive, the tool car and other rolling stock will mean continuing mechanical tasks—both on site and on the road.

During the restoration, activity by volunteers, supporters, and visitors has consisted of dedicated rail fans. Operation of a big steam locomotive will draw the interest of a much wider audience. Tourist sites, businesses, government agencies, and other beneficiaries of steam heritage operations will join the action.

Increased task activity will include public relations, marketing, education, and other conventional business type functions.

Looking down the track, what is needed to meet the new routine?

- More volunteers are always needed, in both mechanical and non mechanical tasks.
- Continued donations of materials, tools, and cash will be necessary to preserve the icon of New Mexico and U.S. rail heritage.

And finally, to carry on the work done to date, 2926 needs more young volunteers like those pictured below, and below right.



Left to Right: Scotty, Teddy, Anthony, and Henry chat while working on small valve parts. These young agile volunteers are more often seen atop or underneath 2926 in hard to reach spaces.

(Continued from Page 5)

Critical Planning

No new plans were necessary when AT&SF railroad took delivery of 2926 from Baldwin Locomotive Works in May 1944. Railroads and the rail industry had detailed plans developed over decades of steam experience. And the crew assigned to operate the new locomotive had extensive experience. Those two features do not exist to put Santa Fe 2926 into operation. Therefore, it was necessary to develop plans that would be acceptable in 21st century rail operations. Work to develop and seek approval of general operating and safety plans has been underway for some time.

General Operating Plan

In the photo at right, Larry L., John T. and Ken D. work on the general operating plan. They have researched historic and existing plans, and have been assisted by steam operators from other parts of the U.S.

When complete, the plan will be published. All crew members on 2926 operations will be expected to know and follow the plan.

Operational Safety Plan

The 2926 Chief Safety Officer, Jon Spargo, has support of Warren Scholl of Kansas. Both have extensive rail safety experience. Warren is a retired AT&SF Safety Officer. Jon served as Safety Officer at the National Radio Astronomy's Very Large Array near Socorro, where the twenty seven 230 ton antennas are moved about on rails. Jon summarizes their safety planning task below.



CSO Spargo at work on Safety Plan

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Railroad Safety!

As we approach the magic moment of steam up we must look forward, first to operational tests of 2926 and later to our first excursion. This will take place in the coming months. Right now it is very difficult to assign fixed dates to coming events.

However, the NMSLRHS is in an interesting position. We are railroad related, but **NOT a real railroad!**

This has some interesting ramifications. Basically it means that for both testing and excursions we must run on tracks owned by a real railroad. Thus, we are obliged to first, obey all rules and regulations of the U.S. Federal Railroad Administration (FRA), such as the General Code of Operating Rules (GCOR). Second, we must obey whatever rules that apply to the host railroad we are running on! This includes both job and safety training for our members who will become part of our operations crew.

Almost all of our break-in and testing runs will be done on tracks owned by the State of New Mexico. Those tracks are administered by the Rio Metro Regional Transit Authority (RMRTD, central New Mexico's regional public transit authority, commonly known as "The Rail Runner."

For the critical first phase of operation, the Transit & Rail Division (TRD) of the New Mexico Department of Transportation, (NMDOT) has asked us to provide them with two important documents. They are an "Operational Safety Plan" and a "Logistics Plan" for non-revenue test runs for 2926. These documents are quite detailed and address hundreds of specific topics related to both safety and test runs.

As of April 7, 2018, drafts of both requested documents have been filed with the NMDOT Rail Bureau Manager and the RTD Director. We eagerly await their reply and comments so that we can get started with the tasks of testing and running 2926.—Jon Spargo, Chief Safety Officer

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Future Volunteers Visit

This group of Cub Scouts brought their parents by for a tour of the 2926 work site.

Yes, they are still a bit young. There is a minimum age for work site volunteers. Maybe by the time they reach the age of the four volunteers pictured at left, they will come aboard.



VIP VISITORS

Saturday March 17 (St. Patrick's Day) was more than an Irish holiday. It was also a busy work day in which we had two important visitors on site. Trains Magazine Editor Jim Wrinn and his wife Cate dropped by for a day long visit with the 2926 crew. Jim set up cameras and live-streamed work activity most of the day. They visited with crew members and took a number of photos and videos. In the first photo below, Jim, (center right in blue hat) covers the metal casting crew producing radial buffer parts. In the second photo, Cate gets some close up shots of the crew's work.



TOOL CAR PROGRESS

We have recently encountered the questions, "What is a tool Car?", and "Why is a tool car necessary?". The questions probably came from someone who has not been involved in current steam operations. A quick three point answer to those questions is: 1) steam locomotives are labor intensive, requiring regular maintenance; 2) steam maintenance facilities no longer exist everywhere, and; 3) owners of the railroads upon which 2926 will operate would not like to have a stalled steam locomotive blocking their tracks. Having a road crew with maintenance and repair tools, readily available is very necessary.

Former Amtrak baggage car RPCX 3939, donated by Curt Potter is pictured at right. Currently located in Bellevue, Ohio, it is under the care of Mark Magers, and has been renamed NMSX 3939. It is undergoing inspection and any needed repairs to ensure roadworthiness. In the second photo, the body of the car is being lifted from the trucks and placed on cribbing.



The trucks are disassembled for inspection and any needed repairs. Work on the parts is underway in Ohio. The pictures below show some of the freshly cleaned parts being dye checked for cracks. They will be cleaned and prepped for paint. The trucks will be painted silver as seen on past photos while the car was in service.



When Belleview is finished, it will be moved to New Mexico. It should be in Albuquerque by late summer. Here it will undergo additional work to complete its conversion to a tool car. Included will be installation of our large air compressor, a generator, welding equipment, and storage for spare parts, lubricants, supplies. The work will also include door repair, painting, and crew seating for the road.



Not A Tool Car Yet: The inside of RPCX3939 at this time indicates a need for a bit of cleanup before installing storage, equipment, and tools.

\$150,000



TOOL CAR FUND

Will the GoFundMe reach its goal before the car arrives?

THE RACE IS ON!!

Thanks to GoFundMe donations by the generous fans of Santa Fe 2926, our effort to raise \$150,000 for tool car costs just passed the 80% mark (Left). The car should arrive here in late summer.

With just a few months until arrival of the tool car, there appears to be a race between arrival of the car, and reaching the GoFundMe campaign goal. Help our GoFundMe beat the car to the site.

HELP WIN THE TOOL CAR RACE, GO TO THE NMSLRHS WEB SITE [HTTP://WWW.NMSLRHS.ORG/](http://www.nmslrhs.org/)

The GoFundMe link is on the opening page, along with and to other ways of supporting our effort to restore and operate an icon of New Mexico's rich rail heritage.

Photo Courtesy Jeffrey Korsak Collection, Western Railway Museum, Rio Vista Junction, CA.
Santa Fe 2926 heading west with the second section of train 19, The Chief, one mile west of Victorville, CA in 1947.



NEW MEXICO STEAM LOCOMOTIVE
&
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