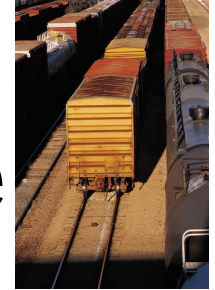




BIGGS APPRAISAL

PROVIDING VALUATION AND TRANSPORTATION SERVICES TO THE RAIL INDUSTRY



Subjects of Value

The Inspection and Appraisal of Rail Equipment

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They Didn't Like Alco's Either

Back in the early days of dieselization, the two major players were Alco and EMD. EMD had a head start on the locomotive dieselization because the War Production Board wanted Alco to continue to produce steam locomotives, and EMD was to produce and refine its diesel offering. During its short run in the diesel era, Alco had 3 prime movers; the "539T" used in 1,000-horsepower switcher and road switcher variants, the "244" of 1,600 horsepower used primarily in the RS3, and the "251" used in switchers and road power with 8, 12, and 16-cylinder versions. All of the Alco's were 4 cycle engines that were always more

complicated to repair than the simple 2 cycle EMD competition. Alco's always powered up faster than an EMD, and with stout GE traction motors they could lug to beat the band. As the Alco's got older, they required more maintenance, which always took longer than the simple easy to repair EMD. Quite a few Alco's were upgraded with the application of EMD 567 prime movers.

Fifty years later we have a new generation of competitors to EMD and GE 4 axle power in the form of Gen Set locomotives. Over ten years ago, the two big Western Class One railroads took on sizeable fleets of Gen Sets that was partially financed by environmental

grants from both California and Texas. This was to help those states reduce smog in high population areas. A number of companies built Gen Sets, and the leader of this charge was National Railway Equipment with its 3-gen set unit featuring 3 Cummins 700 horsepower gen sets developing a combined 2,100 horsepower. The NRE Gen Sets were the largest

group built. These are a very sophisticated unit that is highly computerized with NRE's patented N-Force traction control system that allows the unit to lift loads like no other no other 4 axle machine. The beauty of the Gen Set is the fuel economy. During light operations, the computer operates the Gen set engine with the lowest number of operating hours. As the engineer required more power and opened the throttle, the second and third engine would start automatically and power up adding juice to the bus until the maximum power was developed. The operative phrase was "until the maximum power was developed". Making the transition from one to two and three engines took more time than a single engine prime mover took to load up. If one wanted to kick cars, then you had to have all three engines online to do that. This defeated the energy savings aspect of the units. The Class One's had committed to the minimum use of these locomotives for ten years to get the funding. They met their contract obligations, but based on an extensive amount of

(Continued on page 2)



They Didn't Like Alco's Either

(Continued from page 1)

feedback from their train crews, these units have since been sidelined. Units have been flowing through the used marketplace and will continue to do so.

Just like the Alco's in the right applications, these gensets can work very well. Unlike most gen set locomotives that were built on a recycled locomotive underframe, the NRE 3 Gen Set units were built on a new underframe that is now approximately 10 years old and composed of modern standard, well-supported components. Studies run on Class One railroads showed that somewhere about 90% of the time, these units pattered around doing their business on one engine only to be powered up when the loads demanded. Gen Sets are ideal for shortlines and industries that have less need for higher power and more need for low speed and economical operations. These type of operations give the potential for Gensets to shine for many years to come. Today, there is still a population of Alco units more than 50 years later. Looking into the future, it is not cost effective to modernize the older four-axle locomotives when a superior alternative is available. The computer system prioritizes the individual internal palatized gen set with the lowest operating hours. By adding a low hours Gen Set to the mix, someone could run these units for many years with relatively low maintenance.

When I spoke with Steven Beal of NRE about the continued support of the Gen Set Units that NRE has built, he said. "NRE has and will continue to support and develop new technology towards the Gen Sets

for of the future. We can still see the need for ultra-low emissions and reduced fuel consumption locomotives for North America and the rest of the World. Our staff while working on other types of motive power are still on the cutting edge of design of single and multi-engine platforms to fill the needs of specific customers."

-Steven L. Beal

If a confirmation of how long that support might be in place, one might draw comfort from the fact that NRE still support the remaining Alco fleet, with new rebuilt, and used replacement parts from an extensive inventory of parts.

Not interested in multiple engines? Think about that 10-year-old almost new underframe as a great starting place for a reengine project. These Gen Sets are real opportunities to upgrade your fleet with late model 4 axle locomotives that have a number of options for their use. Some units are available now, and more will soon be available, at a very attractive price



Making Sure That Long Train Stops

In late December, I had a five-day rail equipment inspection trip in Canada. This was on a Class One Railroad that had some very serious long steep grades. In the two yard locations I visited, there was a very strong focus on two major items that I was previously aware of. If an avid reader of what is going on in the railroad world missed these items, then there might be more than one of us who could see the importance of what I learned.

Most people who are a little bit familiar with railroads know all

about hot box detection. How much do you know about Cold Wheel detection other than when you forgot your driving gloves? This particular railroad has cold wheel detectors strategically positioned along major corridors that involve grades, with some detectors approximately 50 miles apart. Having a cold wheel determination on a car that has just come down a grade is a very strong indicator that something in that particular car's brake system is not working correctly. On long steep grades, you want all of the cars pulling together to keep the train under control,

(Continued on page 3)

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Biggs Appraisal and Subjects of Value are service products of Edward D. Biggs III, LLC D/B/A Biggs Appraisal. An Accredited Senior Appraiser (ASA) member of the American Society of Appraisers with a focus on rail equipment, locomotive, railcar, and maintenance of way equipment valuations. Ed Biggs has spent over 40 years in the railroad industry with a mix of significant experience with railroads and leasing companies, including experience in fleet operations, mechanical, and sales. Biggs has particularly in-depth knowledge of railcar extended life upgrade and rebuilding programs. Biggs Appraisal also researches a wide variety of subjects to support valuations, both for its own interests and those of its clients. Stuart Biggs has been involved with every aspect of Biggs Appraisal's business for over 10 years and is a qualified rail equipment inspector that you can expect to see more of on inspections. Johanna Biggs Mitchell has been working behind the scenes for a couple years in research, appraisals, and inspections. The articles in Subjects of Value are by necessity brief and are designed to spur further conversation. Questions, comments, and feedback are always appreciated. This newsletter is aimed at people interested in the rail industry. If you wish to be either added or removed from our mailing list, please email us at biggsappraisal@yahoo.com. We encourage industry distribution of this newsletter.

Making Sure That Long Train Stops

(Continued from page 2)

especially with longer and heavier trains that are the norm on today's railroads. Eliminating false positives in the detection system is the major reason for having more than one cold wheel detector. Having a reporting system that pinpoints the defect down to the car's position in a train allows a car inspector to determine if the car needs to be set out or repaired quickly in train.

The second major item of conversation is a modification to the brake system with the application of a Four Port Test (ASCT) receiver. The particular Class One I visited believes the Four Port Receiver is a major improvement in brake system diagnostics, and they are specifying it on new freight cars added to its fleet, as well as existing cars that are going through normal brake servicing.

The Four Port Receiver allows for an enhanced test by allowing

a far more accurate and comprehensive test with four key pressures measured precisely. The performance of the valve during testing is readily evident and not subject to guesswork and interpretation. When failures are encountered, diagnostic help is provided to ensure the appropriate corrective action is taken. Pressures measured are the brake pipe, auxiliary reservoir, emergency reservoir, and brake cylinder, as well as both up stream and down stream of the empty load device.

We are in an age where most of the improvements to rail equipment are actually small tweaks of good solid systems that work. If I were a freight car builder or brake valve manufacturer, adding a Four Port Receiver is a tweak that I would proactively make to my cars specified or not.

Cold wheel detectors and four port receivers really can make a difference in helping make a very safe industry safer in a cost effective way.

Attending REF?

The Biggs Appraisal team attends, speaks and is a sponsor of the Rail Equipment Finance Conference. Many years ago, Tony Kruglinski asked me to speak at the Rail Equipment Finance Conference and suggested sponsorship. It was a great idea. Tony was full of great ideas. His suggestions have made sense and have been a real and continuing positive impact on the Biggs Appraisal family business. Discounting my self-interest, I highly recommend attending REF in La Quinta during March 1-4. Be prepared for information overload and abundant networking opportunities in a beautiful setting, as the experts in every aspect of Rail Equipment give you

the latest updates on what's what. We hope you can stay for the whole conference, which covers both railcars and locomotives. We sponsor lunch on Wednesday and hope you will be able to join us.

Women in Railroading

Women continue to be a growing part of railroading, and represents a third of the Biggs Appraisal team. Johanna Biggs Mitchell hopes you will join the growing cadre of women at the Women in Railroading Luncheon on Tuesday March 3rd.