



**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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## Inside this issue:

<i>News Flash! AAR Discovers Fountain of Youth</i>	1
<i>Railcar Movers</i>	1
<i>Cars in Focus: Eastern Style Open Top Hoppers</i>	2
<i>Digital solution to a Vexing Problem</i>	3

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“Norfolk Southern and Freight Car America announced that NS had ordered 1600 coal cars of a new design as the start of its coal car replacement program. Many people have become concerned about their ownership of the traditional steel Eastern Style open top hopper.”

See “Cars in Focus,” Page 2, for more.



## News Flash! AAR Discovers the Fountain of Youth

Great News! The ability to have longer lives (for freight cars) was found not in a fountain in Florida but discovered in an ink jet in the District of Columbia. At least, it was according to the Association of American Railroads (AAR) Circular Letter C10364 issued on September 5, 2006 titled “Implementation of Office Manual Rule 88 Revisions for Increased Life Status --- 65 year cars.” Under the New Rule 88, which went into effect in October of 2006, cars that meet the requirements of “Increased Life Status Units” will have up to a total of 65 years of AAR interchange life.

This is a bold move designed to help the rail industry meet its rapidly ex-

panding equipment needs. Bold? Yes, but not imprudent. This extension of the usable life of a car is made possible by successful programs to improve rail equipment ride, dependability, and longevity. Extending the lives of railcars could not have been accomplished without a strong commitment from the railroads, car owners, freight car builders, and component manufacturers to continually improve and innovate, a commitment that has created a freight rail system without peer in the world.

The focus of the new rules appears to be improving freight car ride and braking performance for heavy capacity cars. The combination of higher speeds and

heavier cars has caused alarming increases in rail- and car-component wear related to truck hunting and car rocking. Truck hunting, in simple terms, is a side-to-side bouncing of the flanged wheel as it tries to find its way through a curve, and the heavier the car and the higher the speed, the harder the impact and more extensive the wear. In fact, the majority of the requirements for attaining 65-year increased life status revolve around improvements to the cars’ trucks and braking systems.

Modern heavy capacity freight car trucks and aux-

*Continued on Page Two*

## RAILCAR MOVERS

A byproduct of the deregulation of the railroads initiated by the Staggers Act of 1980 was that industry-switching chores moved from railroads to either third parties or for a business itself to switch their own plant. Since railroads always looked at industry switching as an expense this service was usually provided when it was convenient for the railroads.

Being able to switch your own plant allows businesses the flexibility to be responsive to the needs of its own production and improves the flow of materials, where and when they are needed. Many tank, covered hopper, and other types of railcars are used as rolling warehouses and are moved into and out of a plant’s production stream as required. Oftentimes,

only one car in a long string needs to be moved to better position the car for loading or unloading. In the old days, a locomotive would have been used to pull the string to position one car. This pulling of the string could have required disconnecting a large number of cars to facilitate a small move for one car. As

*Continued on Page Three*

## News Flash! AAR Discovers the Fountain of Youth

(Continued from Page One)

iliary devices will go a long way towards minimizing truck hunting problems. The Increased Life Status rules set out two conditions and a key date for modern heavy capacity car owners to keep in mind. According to the rules, "Units with 4-wheel trucks and a gross rail load greater than 268,000 and up to and including 286,000 pounds, intended for Free/Unrestricted Interchange service in accordance with AAR Standard S-286, must be equipped with trucks in accordance with AAR Specification S-286 for cars manufactured after June 30, 2004." The cars "must be manufactured, rebuilt/ modified or upgraded for Increased Life Status in a facility that has an AAR Quality Assurance Certification, as required in AAR Specification M-1003."<sup>1</sup>

The great news, then, is that if you have acquired new cars built after June 30, 2004, and the car can meet the other requirements of the Increased Life Status, you will have a car with a 65-year life! According to the Circular Letter, the key element is meeting a fatigue test require-

ment: "Confirmation of the ability of the unit structure to withstand 65 years of life under anticipated physical environment and annual mileage of the units is to be provided either by physical fatigue test." Alternatively, the cars could be certified for extended service by inspection, a process that requires detailed inspections at 5-year intervals after initial approval.

Subject to clarification of the rules, I interpret the Increased Life Status (ILS) rules as allowing 65 years of life if the car either meets the fatigue test and other ILS mechanical requirements or if the car meets the ILS mechanical requirements in inspections conducted during 5-year intervals.

The most critical and hard-to-predict aspect of this change to a 65-year lifespan is whether such an extension will be approved by the Federal Railroad Administration (FRA). Until there is a clear and understandable procedure for getting FRA approval, 50-years will continue to be the maximum life for cars. It would be in the best interests of the AAR, car builders, and car owners, either separately

or as or an industry coalition group, to quickly get a resolution from the FRA concerning car life to make sure the FRA's thinking is in line with that of the industry.

Having both AAR and FRA approval of a car group's Increased Life Status has value. As an appraiser, I see that value manifested in an increase in the Current Fair Market Value and Estimated Future Fair Market Values as well as in the recognition of an extended normal useful life. When I am looking at an extended normal useful life for a car group that meets Increased Life Status requirements, I will be considering all of the variables that affect the subject cars.

If you want to explore how the recognition of Increased Life Status will affect the value of a specific car group or your railcar fleet I will be happy to work with you.

<sup>1</sup> Association of American Railroads 2006 Office Manual Modified to Incorporate Proposal for 65 year increased life, as outlined in Circular Letter C-10364. Section C1g. September 5, 2006

<sup>2</sup> Ibid.

## Cars in Focus: Eastern Style Open Top Hoppers

Recently, Norfolk Southern and Freight Car America announced that NS had ordered 1600 coal cars of a new design as the start of its coal car replacement program. Since this new car design will be replacing the traditional steel Eastern Style open top hopper, many people have become concerned about their ownership of this car type. A close look at the open hopper car type that most people are familiar with, the H350, may ease that concern.

The H350 is an unequipped hopper

with a load limit of 185,000 pounds or more with non-rotary couplers and three or more divided hoppers with outlets that allow dumping between the rails. When most people think of this car type, they think of it carrying loads of coal and aggregates. However, this car type can be used to transport a wide range of commodities, such as iron concentrates and ores, coke, phosphate, sugar beets, sand, potash, borate, copper concentrates, earths, salt, Bentonite, glass, and nonmetallic minerals. This wide range of commodities and commod-

ity weights requires an equally wide range of capacities to handle the loads.

Currently, there are about 51,000 H350 cars in 95 different cubic-foot capacities, ranging from 1626 to 7200 cubic feet. Sixty-three percent of the General Service Hopper fleet in North America is made up of H350 cars. There are approximately 45,000 cars if you consider only the H350 cars in the range that would effectively carry coal (263,000 to 286,000 gross weight

*Continued on Page Four*

# Railcar Movers

*Continued from Page One*

you can imagine, a considerable amount of coordination was required to minimize the disruption to production. A better way to switch a plant was clearly needed.

A unique solution to switching a plant efficiently was the railcar mover. First introduced by the Whiting Company in 1950, the unit became known in the industry under the trade name Trackmobile. The early Trackmobiles were powered by a 60-horsepower gasoline engine and weighed about 6,000 pounds. The unique design allowed the Trackmobile of the 1950s to pull up to 50 times its own weight.

To accomplish this Herculean task, the Trackmobile transfers a part of the weight of the railcar it moves by having a hydraulic lifting coupler that lifts the railcar's coupler to borrow the weight of the railcar, thus giving it the pulling power of a much larger locomotive. Some of the other railcar movers derive their tractive force by a combination of the weight of the unit being supported by both the steel rail wheels and the rubber road wheels on the rails.

Unlike a locomotive, the railcar mover has the ability to move both on the rails and on the road. This transformation is accomplished by hydraulically raising the rail wheels when needed to reposition the unit.

The timing of deregulation of the rail industry and introduction of newer higher capacity railcar movers empowered rail-served industries to be more efficient at moving larger quantities of railcars. Nearly 10,000 railcar movers have been built, and a high percentage of them are still in use in North America. Trackmobile has the largest share of the market, but other builders such as Switchmaster, Caterpillar, Railing, Mitchell Equipment, Shuttlewagon, Pettibone, Schaeff and Unimog have a variety of competitive units available. These units do not use lifting couplers and are generally heavier than Trackmobiles to achieve the desired pulling force.

Railcar movers are versatile long-lived assets that hold their value. Most of these units feature standard production engines and off-the-shelf, current model, name brand industrial components. Trackmobile, as the largest manufacturer of railcar

movers, offers factory rebuilding programs that will bring older units up to modern standards, as well as parts kits to allow the rebuilding to be done in a dealer network shop or in the field. Maintenance is easily done at the owner's industrial plant, and the newer units use reliable diesels. Current new and rebuilt Trackmobile units feature Cummins engines that are EPA-approved for off-road use. Caterpillar offers parts and service for its line of railcar movers through its extensive dealer and service network. To a lesser extent, the other manufacturers of railcar movers have dealer networks and support for their equipment.

As in all equipment appraisals, condition of the unit is most important. Railcar movers are big ticket items, complex and sophisticated machines that are built to serve a wide number of applications. I highly recommend having used railcar movers inspected as part of the appraisal/purchase process. Financing railcar movers is not for everyone, but a substantial, growing, and potentially lucrative market for new, rebuilt, and used equipment exists.

## Digital Solution to a Vexing Problem

I made it a practice, when I worked on a shortline railroad, to have the train crew take pictures of high-value transformers at our interchanges. In less than a year, having three dated photos showing an undamaged car and transformer allowed my railroad to avoid paying \$100,000 to our Class One connection as our share of repair costs for a transformer that was damaged. Today's relatively inexpensive digital cameras can help a railroad to easily avoid paying for car or lading damages they are not responsible for.

Anyone who is around rail cars for even a short time is usually appalled by the amount of damage railcars endure. Generally, damage is caused by either railroads or shippers. In a perfect world, railroad damage would be caught by railroad inspectors at the interchange between railroads. In the past, it was difficult to prove that shippers caused damage, and it was a sensitive matter to pursue. Today, however, shippers and railroads are working together more and more often and have found that solving one party's problems can benefit all.

You can start by letting your custom-

ers know when you see damage to railcars at their site. This could be damage caused by a gorilla on a forklift or even by a well-intentioned driver pushing on a car with a non-coupler vehicle. It is relatively easy to canvass train crews to see where car damage problems are occurring. Train crews have a vested interest in reducing these problems since damaged cars pose the risk of injury. Using the regular train crew or other railroad employees to take

*Continued on Page Four*

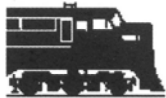
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*Biggs Appraisal and Subjects of Value are service products of Edward D. Biggs III, ASA. Biggs has spent 29 years in the railroad industry with a mix a significant experience with railroads and leasing companies, including experience in fleet operations, mechanical, and sales. Biggs has particularly in-depth knowledge of railcar extended life upgrade and re-building programs. He also researches a wide variety of subjects to support valuations, both for his own interests and those of his clients. 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 this mailing list, please email us at [biggsappraisal@yahoo.com](mailto:biggsappraisal@yahoo.com).*

# Cars in Focus: Eastern Style Open Top Hoppers

*Continued from Page Two*

on rail).

The recession of 2001 and the China scrap buying frenzy reduced the General Service Hopper fleet by 24,288 cars.<sup>1</sup> The H350 fleet during that same period shrank by 23,172 cars, which accounted for 95% of the overall reduction. Since coal comprises about 60% of the carloads of the General Service Hopper fleet, it is evident that the majority of the H350s that were scrapped were the H350s that had been in coal service. This is why we currently have a very high demand for, short supply of, and rather pricey market for coal-size H350s.

If you look just one year before the recession, the North American General Service Fleet had an aggregate capacity of 11,729,000 tons. In Janu-

*“If the industry is going to replace even some of that pre-recession capacity, it will require a large number of new cars.”*

ary 2006, that capacity was 8,430,000 tons. If you recall, between 1995 to 2000 H350s were being repaired and rebodied to keep up with demand. It was a strong marketplace with a tight

supply of cars. If the industry is going to replace even some of that pre-recession capacity, it will require a large number of new cars. As of August 2006, 971 new H350s have been added to the fleet.

In my opinion, the H350 steel fleet has already been downsized enough to allow it to stay in demand for some considerable future. There are some railroads that prefer steel cars, and I would expect that they might drive the next round of rebodding and upgrades to get the H350 well into extended-service life.

<sup>1</sup> Railroad equipment Report 2006, Association of American Railroads, policy and Economics Department August 2006.

# Digital Solution to a Vexing Problem

*Continued from Page Three*

digital photos of a car or string of cars at an industrial site is unlikely to cause excessive delays.

Having dated photos of cars that are undamaged when they are set out and damaged when they are picked up can give your salesman and customer a proactive tool for correcting the problem. Uploading and sending

pictures quickly via the Internet can bring the railroad and customer together in a positive way that will not only reduce car damage, but will help determine when and where the damage occurred. Many times the customer is unaware of a problem and, with digital proof, can find and correct it quickly. Educating the customer about car moving options, such

as locomotives and car movers, and helping them to locate the proper equipment for purchase may eliminate damage to cars caused by using non-coupler vehicles.

Reducing car damage is beneficial for the railroad, shipper, and car owner, and, using digital photography, it can happen in a flash.