
FEVR FLASH

NEBRASKA RAILROAD MUSEUM

1835 N. SOMERS, FREMONT, NE 68025

FEBRUARY, 2005

POINTS OF CONTACT:

Nebraska Railroad Museum (NRM) and the Fremont and Elkhorn Valley Railroad (FEVR)- 1835 N. Somers, Fremont, NE 68025, (www.fremontrailroad.com), 402-727-0615 (office)

Fremont Dinner Train - 650 N. H St., Fremont, NE 68025

For excursion only- 402-727-0615

For Dinner Train only- 402-727-8321

(The Fremont Dinner Train is a separate business for which the FEVR provides motive power and trackage).

EXCURSION TRAVEL:

The 2005 excursion schedule will begin Sunday, **May 8**, and end on Sunday, **October 30**. Excursion trips will board at the depot at 1835 N. Somers in Fremont at 1:00 PM. After May 8, trips are scheduled for every **Saturday** and **Sunday**. Fares will remain the same as in 2004. Special schedules such as those for the John C. Fremont Days in July will be announced as needed. Extra fare accommodations in climate-controlled cars remain an option.

School charters are scheduled for April, May, September, and October. These fares are also unchanged.

Charters are available any time of the year, depending upon weather and operating conditions. Contact the FEVR office for more information.

LETTERS AND BROCHURES:

Letters of invitation for charters in the 2005 season have been sent to area schools. New excursion **brochures** are at the publishers and should be available no later than mid-March. For copies of either or both, call the NRM/FEVR office with a request.

DONATION AND GRANT:

A total sum of **\$6000** was received by the Museum in the form of a grant and a donation from the **Hazel Keene Trust**. The Trust was formed from funds designated by the Keene family of the Fremont area. The NRM is very grateful

for this generous assistance.

RULES/SAFETY CLASS:

Saturday, March 19, has been selected as the date for the annual rules/safety class. Several arrangements, including the scheduling of a **guest speaker**, still need to be completed. The class is an essential event for all who will work with the trains and associated activities. Railroad operations by their inherent nature have the potential for injuries and fatalities unless operating rules and safety practices are rigorously followed.

Information will be **mailed** to potential attendees when arrangements are completed. A second session may be scheduled if there is a need.

LOCOMOTIVE MOVES:

The January FLASH issue contained information about the removal of the **"Big Boy"** steam locomotive and the diesel **Centennial** locomotive (formerly along Abbot Drive) from the location near the Durham Western Heritage Museum to a new **Kenefick Park** on the hilltop adjacent to the Lauritzen Gardens at 100 Bancroft Street. The location will be visible to traffic crossing the I-80 Missouri River bridge.

Observation at publication date reveals that both the tender and the locomotive have been **raised** on to cribbing and that steel I-beams to form a transportation carriage are being placed.

Grading has begun on the **access road** to the hilltop immediately outside the Gardens entrance. The gradient of this road will be the **steepest** grade either locomotive has ever encountered (30%?)! Gradient is expressed in the vertical rise for 100 ft horizontal - a 1 ft rise in 100 ft yields a 1% gradient.

RAIL SCHOOL:

(NOTE. The source of much information presented here about the characteristics of diesel locomotives is the publication ***How Diesel Locomotives Operate, Second Professional Edition***, by Dr. W.J. White; PEAT, 1001 Pearce

Drive, Mansfield, Ohio, 44906. This quite technical publication is a comprehensive **source** of information on the subject.)

In the last issue, A **4-8-4** steam locomotive of about **400** tons with a tractive force of about **64000** lb was compared with a modern diesel of about **half** that weight that can produce a tractive force up to **140,000** lb.

The figure for the diesel unit is that for a **region** from standing to a low speed. As speed increases, the tractive effort decreases until at least in theory it approximates the steam engine at possibly **25 mph** and then further decreases at higher speed.

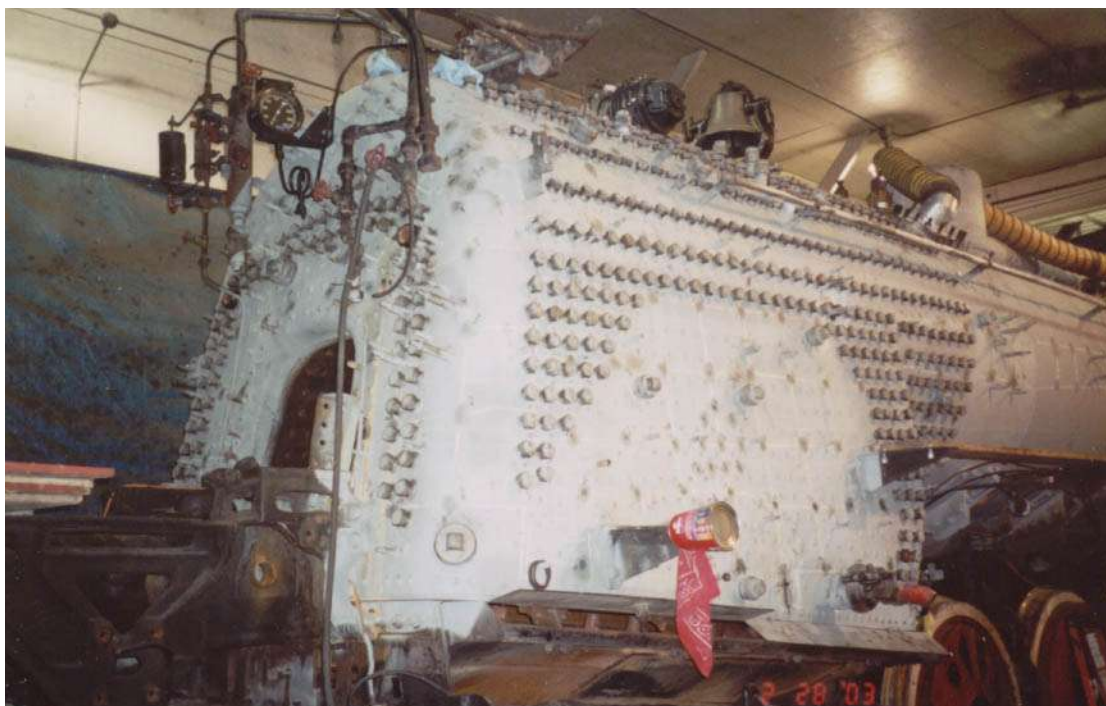
The steam engine tractive effort is a **direct result** of the cylinder steam pressure and the cylinder dimensions. In the example, it can never **exceed** the 64000 lb at any time but if the boiler can supply sufficient steam, in theory the tractive effort at 60 mph should be the same as at standstill. With more speed and the same force, the **effective** horsepower of the engine increases.

Therefore, the diesel can be regarded as **"constant horsepower"** unit- the diesel engine having the same horsepower at any speed with varying tractive effort while the steam engine is a **"variable horsepower"** unit with constant tractive effort.

The ability of the steam engine to ascend a grade at speed has often surprised a diesel engineer riding in steam engine.

Modern **high horsepower** diesels are, in fact "variable" horsepower since at start and low speeds their horsepower is **reduced** automatically both to accommodate the limits of wheel adhesion to the track and to protect the electrical components from overload and overheating.

Older locomotives, such as the FEVR's EMD SW 1200, have a load meter which indicates to the engineer the maximum outputs that can be sustained for various time periods.



RAILSCENE: Rear of the boiler with cab and insulation removed on Boone and Scenic Valley JS8419 showing the heads of staybolts that keep the firebox (door at left) from collapsing under steam pressure. (Photo with permission)
