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From: Alfred Hauser - Hettlingen
Locomotive power outputs and other matters

It was a pleasure to read the first edition of Swiss Express produced by you and your team. In my opinion it is a marked improvement. Keep up the good work. I take the liberty to draw your attention to some minor and fairly common errors having occurred repeatedly in the past. Please do not consider my explanations as a criticism.

There seems to be confusion regarding the correct use of the terms "kW" and "kN". On the continent the **power output** of a locomotive is expressed in **kW**. 1 kilowatt (1000 Watt) equals 1.34 HP or 1.36 continental hp. Therefore, a SBB class 460 locomotive with a maximum power output of 6100 kW develops about 8300 hp. The **tractive force** of a locomotive, measured at the circumference of the wheel is expressed in **kN**. 1 kN (1000N) corresponds to 98.1 or roughly 100 kg (ca 220 lbs). Our class 460 engine ascending the Gotthard at a speed of 80 km/h produces a tractive force of 274.5 kN or approximately 27450 kg (60500 lbs). The higher the speed the lower the tractive force because higher speeds consume a rising share of the available power. At 160 km/h our locomotive has a tractive force of roughly 13700 kg or 30200 lbs. The **formula** to calculate the tractive force is **power in kW x 3.6 divided by speed in km/h**.

Sometimes gradients per 1000 meters are erroneously indicated in per cent (see page 7 September issue). An incline of 12.5 % equals 125 meters per 1000 meters, a gradient where rack operations would be necessary. I would suggest using the British version, i.e. in this case 1 in 8.

Printing errors occur frequently with station or community names. I recommend working with the official timetable. Notepad is informative. I assume the information is obtained through newspapers, railway magazines and possibly personal contacts. However you should bear in mind that the original information is often reduced to the barest minimum by the responsible editor to save the necessary room for additional news. In general the outsider then draws incorrect conclusions. A good case in point are the comments on the sectorisation and the allocation of locomotive classes to passenger and freight service. The original SBB information explains the reasons as given below. Due to the progress of railway 2000 and the introduction of the half hour sequence on lines with high passenger volumes such as Zürich to Bern the demand for class 460 locos is rising. The faster locos are able to transport on the Swiss plateau loads up to 1000 tonnes on gradients 1 in 100, whereas on the Gotthard line the load is restricted to 650 tonnes at a speed of 80 km/h on 1 in 37. This is a notable rise in productivity. Due to the higher loads it is possible to economise using locos of older classes. These locomotives are valuable for freight service because they are wholly depreciated. The lower km cost makes them more competitive in the fight for freight. Finally I would like to point out that the example of 2x460s for EC is not a common one. For an EC either 2xRe 4/4 or 1 Re 6/6 would be more appropriate. For 2x460s a load of 1300 tonnes is allowed, whilst 2xRe 4/4 "s are allowed 920 tonnes and 1 Re 6/6 800 tonnes. In my opinion 2x460s on ECs appear to be a transfer of 1 engine for whatever reason. Due to the dense traffic, light running of one locomotive is very rare.

I hope my comments are helpful.

From: Bob McIntyre - Falkirk

Missing Links

I have not long returned from a holiday In Switzerland , my 28th!, and enjoyed myself as always. Now read on At a meeting of our local 'Probus' club a member offered a large pile of the Scots Magazine. I picked up a few copies, some dated back a few years. In one magazine dated November 1985 the following article appeared under the title "The Missing Links" by Douglas Smart.

It is easier for foreigners to travel about Switzerland than it is for Scots to do so in their own country. This year I spent ten days in Switzerland, during which I covered a considerable mileage by public transport. Armed with a regional ticket giving unlimited travel on trains, buses, lake steamers, cable cars and chairlifts. I also had a Swiss timetable which includes everything that moves in that country. Despite my almost total lack of knowledge of the languages I had no difficulty in planning and executing a wide range of tours combing various forms of transport. All the undertakings, both public and privately owned coordinated their services so that there was very little waiting in between.

Such is the efficiency of the Swiss transport system that one can use it in complete confidence knowing that timetables will be adhered to and even if anything does go wrong connections will be maintained. No wonder that the Swiss tourist industry actually promotes the public transport network.

Can anyone imagine the Scottish Tourist Board "selling" our public transport to foreign tourists?

From: Richard Pinner - Edgbaston

Lötschberg Tunnel Exhibition

In case this has not been published anywhere or our members do not know about it, I would like to let you and the membership know about the new and interesting Lötschberg Tunnel exhibition at Goppenstein station.

I found this during my stay at Kandersteg a few weeks ago. It is not well publicised, even locally, and very few people were there when I visited it. One can find it on the upper floor of the station building at Goppenstein, the entrance being from the main platform. There are no attendants, just a series of rooms with displays in pictures and diagrams of the plans. You are asked to put a pair of soft slippers over your shoes at the entrance. In one room there is a big TV set and you can start up a video show about the project, though the commentary is in German. English language pamphlets are available, and in one room there is a coffee machine and some tables and chairs.

The nearby "Ferden window" is fully explained and a short walk takes you to it where you can see the actual work going on. I believe that at some times guided tours to this site are undertaken.

From: Phil Weaver - Little Sandhurst

Blue Loo

On a day trip to Switzerland on 27 October 1999, I happened to go to the loo situated on the eastern subway at Lausanne station. To my surprise when I opened the door, the lighting was totally ultra violet, and I took a few seconds to adjust. I have never seen anything like it before. Does anyone know the reason for it, or if it is an experiment of some kind?

From: Keith Pennyfeather - Alderley Edge

Privatisation in Switzerland

I wonder if other members were as horrified as I was to read, in Alan Pike's report of the SVEA AGM on page 45 of the last issue his statement that considerable interest was expressed in the development in the privatisation of Britain's railways which is being looked upon as a pattern for Switzerland. Since Switzerland would follow such a pattern at its own peril, I am wondering if some words, such as "definitely not to follow" were omitted by mistake from the end of the sentence or was he really serious ?

One of the pleasures of visiting Switzerland is the experience of being able to make totally 'seamless' journeys anywhere in the country, regardless of the mode of transport and irrespective of who is operating the service. This is like a breath of fresh air to those familiar with public transport in Britain. The Swiss travel system must surely be the most successful example of integrated transport anywhere in Europe. To contemplate meddling with it along the British pattern and, in the process throwing away all the benefits of an integrated system, ought to be unthinkable.

If they are not already aware of the problems faced by rail travellers in Britain arising from the way our railways were privatised, then somebody should tell the SVEA - quickly. They should come over here and experience for themselves the delays, cancellations, poor performance, missed connections and loss of network benefits which are a direct result of the fragmentation of the once-integrated British Rail system, in an unpardonable act of recklessness by the previous British government.

Most Swiss citizens would be appalled to discover that the train companies in Britain operate virtually independently of each other, with some timetables and maps not even showing the services of other operators, and with connections no longer held for fear of financial penalties. In place of the simple Swiss fares structure with integrated ticketing, they would find a fares jungle with a confusing multiplicity of different fares, restrictions on times and routes, walk-on fares higher than anywhere else in Europe, with the cheapest tickets available only by advance booking and valid only on specific services run by one company. They would discover that some British train operators find it more profitable deliberately to run trains half empty at certain times of day by charging inflated premium fares, instead of filling the seats by a wide range of tickets that all can afford, and operators who unashamedly admit their prime objective is not to provide benefits for passengers, but for the directors and shareholders.

The integrated Swiss system is light years ahead of ours and serves as a model of public-private partnership, with privatised operators actually cooperating with each other (and with the SBB) to provide - and indeed to promote - a truly national network. Nobody in their right mind would even think of dismantling such a system with such widespread benefits so perhaps Alan Pike was really having us all on - or was his item intended for the 1st April issue of Swiss Express ? In reality the argument should be turned on its head and the new Strategic Rail Authority should be charged with looking at the lessons that could be learned from the integrated Swiss network as a pattern for Britain to follow.

Editors Note: I have given Alan Pike a copy of this letter and he has written a reply which will be published in the next edition.

From: Bob Whiteley - Penwortham

Tilting Trains

George Hoekstra's informative piece on the improvements to the Zürich-Lausanne routes seems to suggest there is something unnatural about a tilting train. When we run or skate or cycle or travel by air we always bank at the proper angle at which the balance canals in our ears tell us we are straight up. All trains tilt round bends but the angle is fixed by PW folk and is only correct for one particular speed so tilting trains offer a wider range of speed. However a 40% increase of speed implies doubling the tilt and that in only 70% of the time so there is a greater likelihood of motion sickness. As long as you are looking out of the window in daylight there is no discomfort but when there is no view those of us prone to the problem have to shut our eyes and let our balance organ paint the picture for us. Is it enough to close the eyes just during changing curvature (ie during transitions)? His mention of a calculated zero line above which the balance canals must not rise, could indicate a new understanding in the field but I wonder if it is a marketing myth raised by a tilt-train manufacturer's sales department? Probably it's a matter of getting used to it so the sooner we have lots of speedier trains in service on curvy routes the better.

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Requests for help

Information on Swiss loco and coach classification systems required from a member who lives a long way from Switzerland! Any websites and/or books that will help particularly welcome. Ron Thomson, PO Box 1901, VRYHEID 3100, Kwa - Zulu Natal, South Africa
eMail - rtlq@dorea.co.za

Tigerli E3/3 - 8451-8533. Details/drawings or photos of cab interior, valve gear and clack valves required for construction of O Gauge model. J Randell - 01772 862020