

The Newsletter
from Bucher Schörling
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BUCHER
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en route



Editorial

Dear Reader,

Our first priority is always to build vehicles that will give you maximum benefit and the best value for money. So we are delighted to again have product improvements and projects to tell you about in this issue.

With energy costs rising dramatically, our engineers are devoting a lot of energy to developing vehicles with alternative drive systems. As part of a research project led by EMPA in Dübendorf, we are working on a sweeper powered by a fuel cell, which you can read more about on page 9. Although it will be some time before we can offer you this as a standard solution, there are already ways that you can save operating costs. So I would especially recommend you to look at the fuel-saving tips from our customer support on page 10.

On this note, I hope you enjoy reading this issue and will find something of special interest to you among our varied topics. And I would like to thank you warmly for placing your trust in us and our products.

Keep moving!

With my best wishes,



Vincenzo Napolitano, Head of Sales and Marketing Bucher Schörling

New

P 21CS snow sweeper

This compact, powerful and manoeuvrable snow sweeper is built around the proven Bucher Schörling concept. Featuring a 6 m or 6.3 m brush, this machine is a top-performer. Its commercial truck cab is ergonomically equipped with every comfort, including clearly arranged and easy-to-use controls. Outstanding efficiency is provided by two blower nozzles mounted in front of and behind the brush for even better clearance performance, especially in dry snow. The result is even safer surfaces, cleaned of all snow down to bare pavement in the cleared path. This multi-tasking machine comes complete with a snow plough, optionally equipped with hydraulic folding side wings, a brush and a dual blower system. With its high engine outputs, the P 21CS delivers all the power needed to drive the vehicle and operate the sweeping equipment. Clearing capacities of up to 250,000 m² per hour are no problem for this powerful workhorse, which of course boasts four-wheel steering and crab steer.

Ottmar Steinebrunner, Product Manager
Snow Removal Equipment
Bucher-Guyer AG, Municipal Vehicles, Switzerland

Bucher Schörling Rolba 600, now featuring a hydraulic lifting cab

From November 2008, a raised cab will be available as an option to help with loading snow onto trucks. The enhanced visibility provided by the operator's elevated seating position is particularly recommendable for use on airports, motorways and country roads.

The lifting cab offers a variable height adjustment of 700 mm.



Littering

A blot on the landscape

A quick visit to the park during an often rushed lunch break to sit on a bench and enjoy the last of the late autumn sun. Once there, a sandwich bought on the way is unwrapped and consumed. But what to do with the packaging? All too frequently, it is left behind – that's littering. Running late, with just enough time for one last cigarette on the way to work – stamped out and left lying on the pavement – that's littering too.

In recent years, littering has become an ever growing concern for communities, cities and states. Almost two-thirds of all the local authorities in Switzerland view careless discarding of rubbish as a serious problem – one that is even punishable with imprisonment. But other comparable countries have also seen a steady increase in intentional littering. This is a scourge, especially in places like party and entertainment zones, pedestrian routes such as railway station forecourts and bus stations, footpaths, and recreation areas with picnic spots.

The Alpine Republic of Austria, for one, is battling with an estimated 60,000 tonnes or so of carelessly discarded rubbish. The resulting disposal costs and financial consequences of littering are immense. One can only speculate about the reasons for it. But it can certainly be put down to changes in lifestyle and the generally growing disregard for public property.

Karin Escherich, a freelance journalist and editor of «zek» magazine talked to Franz Rybaczek, a waste consultant and waste manager of the local government association for waste management and environmental protection in the Lower Austrian district of Lilienfeld.

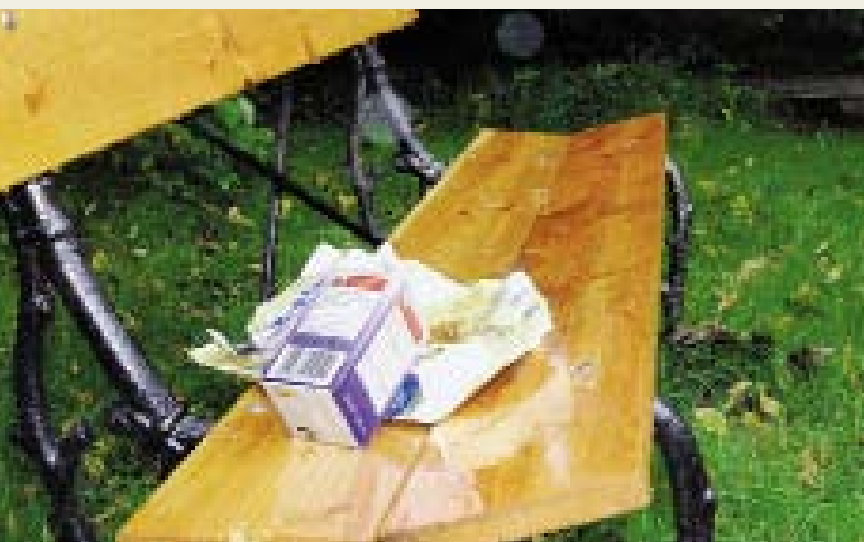
What does littering actually mean? Rybaczek: Littering, in the broadest sense, means carelessly throwing away rubbish on roads, open spaces and in the countryside, and also includes illegal dumping as well as dog fouling and vandalism, such as graffiti.

Is littering a problem of young people? Littering has many facets. Of course, there are some young people who think it is «cool» to give aluminium cans wings ... But taking a closer look, we find that this behaviour is widely prevalent – for instance among cyclists, mountain and forest hikers, at events of all kinds, along roads and motorways, on and under chairlifts, and so on.

How is Lower Austria affected by the littering problem? Littering generates costs to collect and remove the rubbish and to clean park benches or buildings. The road maintenance departments in Lower Austria alone put the annual costs of «delittering» at some 3 million euros. At the same time, littering is a potential nuisance – an eyesore for leisure seekers and tourists. And the countryside suffers too. Cigarette butts take two years to decompose, while an aluminium can takes up to 100 years.

Are people just more aware of the problem, or has littering really increased in recent years?

Obviously both are true in this case! In Lower Austria, awareness of the issue has greatly increased over the past three year, promoted by the activities of the local authorities, waste associations and state government. As there are no exact statistics on the overall problem, no conclusive statements can be made about the



total volumes of litter. For conventional littering – carelessly discarded rubbish – we have no data covering a prolonged period or the state as a whole. But a decline in «illegal dumping» can be seen. Most bulky and hazardous waste can be easily taken to the recycling drop-off centres, which have also accepted all electrical appliances free of charge since August 2005.

Where do you see the worst problems with litter? Roadside littering is probably the most noticeable. But worse problems are caused by abandoned rubbish, e.g. in Alpine regions and at large events, or when problematic waste is dumped out in the countryside.

How many tonnes of carelessly discarded rubbish does Lower Austria have to contend with? The figures for the local authorities' Spring Clean Campaigns in 2006-2008 show the following:

	2006	2007	2008
No. of campaigns	447	368	447
Participants	19.700	22.500	25.000
Volume collected (t)	396	404	364

... but, of course, that's by no means all. The Lower Austrian road maintenance departments expect about 10 ,000 tonnes of rubbish a year, and that's not even including the volume picked up by local authorities.

Could the problem be eliminated by providing more waste bins? Waste bins do help a bit at events, for instance, but out in the open countryside they are often counterproductive. Many bins or baskets in secluded areas have had to be removed again because they seem to «magnetically attract» more litter and are forever dirty and overflowing with rubbish ...

How seriously are the authorities taking the problem? In 2006, the Lower Austrian waste associations launched the «Stop Littering Campaign» in concert with the Lower Austrian government. This is a pinpointed campaign aimed at broadly educating the public about the issue in the long term and getting people to participate (address the issue, join in activities).

What can we do to combat littering? What campaigns are being or have been launched in Lower Austria? We in Lower Austria are trying to motivate people and are conducting campaigns with local authorities, schools, kindergartens and media partners (press, TV, radio).

Have your programmes been a success? The bare figures from the Spring Clean Campaigns across Lower Austria point to success. This year «only» 364 tonnes of waste was collected by 25,000 volunteers in 447 campaigns, following 404 tonnes in 368 campaigns a year earlier. Whether or not that was a one-off outcome will be seen next year. What I consider a bigger success is the acceptance of the term «littering» among the population (starting in 2006, we received around 250 written complaints about the incomprehensible Anglicism ...). But that is why our campaign also has a motto: «We Keep Lower Austria Clean!»

Thank you very much for the interview.

Karin Escherich
„zek – Zukunftsenergie und Kommunaltechnik“ magazine



China

Sweepers for Beijing

Bucher was contracted by Beijing Environment Sanitation Engineering Group Co., Ltd. to supply 20 CityFant 60 truck mounted sweepers as well as 8 CityCat 2020 and 4 CityCat 5000 compact sweepers. Beijing Environment Sanitation is Beijing's street cleaning contractor and was an official service provider at the 2008 Olympic Games.

Winning out against the tough Asian competition, Bucher's Municipal Vehicle Division has landed a number of contracts for sweepers, snow blowers and airport equipment. This immense success is

due not only to the exceptionally good quality of Bucher Schörfling products but also to its excellent customer support and, last but certainly not least, its close proximity to customers and the market.

Training by qualified instructors is essential to ensure reliable operation of the machines

Trained workers are needed to keep the machines running and assure trouble-free sweeping operations. A member of our Niederweningen customer support team spent two weeks providing the crews of Beijing Environment Sanitation Engineering with the necessary





technical knowledge and expertise. Operator training focused particularly on driving the vehicles, changing to and from all-wheel steer, and using the front brush functions and PSS. Quite a new challenge for the operators was handling the CityCat 2020's articulated steering.

The service technicians also required specialised training to carry out servicing and repairs. Like the operators before them, they too were very quick on the uptake so the training progressed very swiftly.

Now the City of Beijing is all set for professional,

high-speed and spotless cleaning before, during and after major events.

More's the pity that no gold medals are awarded for sweepers ...

Viktor Kunz
Managing Director of Bucher Schörling Korea Ltd., Korea



Germany

Customer in the spotlight: Bernauer GmbH

The company Karl Bernauer, now aged 72, established the street cleaning and environmental services business in 1966. Having started out with two Streicher sweepers, Bernauer purchased the first «Schörling» machines in 1970, initiated by the then Schörling manager in Dettingen. So now the business relationship with Bucher Schörling has lasted nearly four decades! In 1992, Karl Bernauer handed over the business to his two sons, Albert and Dieter. At that time, three employees and three truck mounted sweepers formed the core of the company, which primarily served municipal customers. 1992 was also the year when Bernauer GmbH invested in constructing the new office building as it stands today. Since then, the company has considerably expanded its business to provide a wide spectrum of services: from street cleaning and winter maintenance to skip hire and other waste disposal services.

Fleet Today, Bernauer GmbH is equipped with two CityCat 2020s which are in use about 1,300 hours a year. They are deployed alongside seven truck mounted sweepers that need to operate 1,500 – 2,000 hours a year. More specifically, these are 5 dual and 2 single sweep machines (3 x 8 m³, 2 x 7 m³ and 2 x 6 m³). Bernauer GmbH keeps truck mounted sweepers in service for about 10 years and compact sweepers for about 7 years.

Why choose Bucher-Schörling machines? Dieter Bernauer, one of the two Managing Directors, lists the main reasons for his loyalty to the brand:

1. product quality – long machine lifetime
2. interchangeability of parts – low inventory costs
3. spare parts availability – very short downtime
4. high suction performance = optimum machine utilisation
5. very good supplier-customer relationship
6. innovations and customisations implemented through the local office
7. telephone support

Bernauer has found that the CityCat, in particular, is very low on wear and tear. After 9,000 operating hours, the suction nozzle and tube have not yet had to be replaced even though a lot of gravel is swept up. The «PSS» has also proved to be «top», although Bernauer would have made a minor improvement here or there ...

Sweeping equipment Bernauer classifies the Bucher Schörling vehicles as robust and simple to operate. They find the units easy to maintain (easy-care) and low on wear and tear. This has a positive impact on the cost structure. «Using Bucher Schörling vehicles, we can work at competitive prices without having to undersell», says Dieter Bernauer to sum up.

Michael Strobach, Regional Sales Manager,
Bucher Schörling GmbH, Germany



hy.muve project

(hydrogen-driven municipal vehicle)

Hydrogen-driven fuel cells have been under discussion for some time as a potential source of power for future mobility. The combination of biogenically and cleanly produced hydrogen with a high-efficiency drive system is attractive, but technically challenging. EMPA (Swiss Federal Laboratories for Materials Testing and Research), the Paul Scherrer Institute (PSI) and Bucher Schörling are working on a project together with fuel cell manufacturer Proton-Motor to develop a hydrogen-driven municipal vehicle, which is scheduled to be field-tested in a number of Swiss towns from the beginning of 2009. Municipal vehicles can be deployed efficiently even with only one hydrogen fuel station in the vicinity and are very well suited to such drive systems because they operate predominantly under low engine load conditions. Computations have shown that hydrogen-driven municipal vehicles require only half as much propulsion energy as present-day diesel machines.

For the project, a drive concept was finally chosen which involves replacing the diesel engine with a fuel cell/battery system and replacing the hydraulic traction drive and working hydraulics with electrical drives. The system of hydrogen storage in compressed gas cylinders has been designed so that the vehicle can operate for at least six hours on a full tank without refuelling.

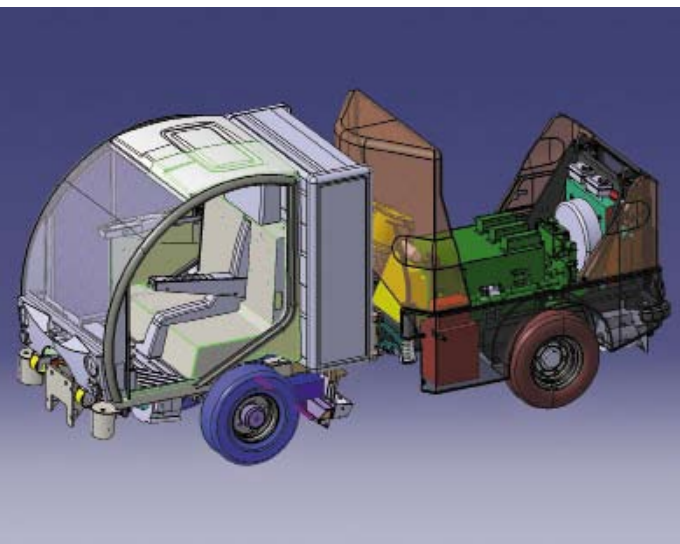
The vehicle has an on-board electrical traction system, supported by a 300 V high-performance

lithium polymer battery. Combined with the vehicle control system, this ensures that all units on the vehicle operate reliably and safely, while optimising the supply of energy from the fuel cell. Alongside the purely operational aspects, a concept has also had to be developed to ensure safety in the event of failures, operating errors or – in the worst case – accidents.

Apart from its ultimate purpose, street cleaning, the vehicle is also being used for research by various groups during the 18-month on-road tests. They are studying the technology and component ageing resulting from real-life operation, while validating the longitudinal dynamics model. In addition, a working group from Bern University and the PSI is conducting socio-economic studies addressing non-technical matters relating to the operation of the vehicle. These cover aspects such as the acceptance of hydrogen as a fuel and market economy issues.

This project is designed to give us a literally «hands-on» experience with this new technology and to promote the planning and construction of local hydrogen fuel stations for other mobile applications.

Christian Bach, EMPA Dübendorf
Head of the Internal Combustion Engine Department





Tips

A “city cat” needs little rest, but does like some loving care

A CityCat 2020 is usually at work almost around the clock, operating more than 2,500 hours a year.

By operating the sweeper properly, you can reduce its fuel consumption and the wear of the brush bristles and other machine parts. This also helps to minimise noise.

Setting the right speed for the brush and suction fan is incredibly simple.

Rules of thumb

Light debris	suction fan 1,700 rpm brush speed about 60 %
Medium debris	suction fan 1,900 rpm brush speed about 60 %
Heavy debris	suction fan 2,100 rpm brush speed about 60 %

For convenience, these settings can be saved in the modern electronic system and selected at the touch of a button according to the amount of debris.

With the powerful 4-cylinder, EURO4 emission compliant turbo diesel engine with a standard built-in particulate filter, you can get full performance out of your machines at an economical 1,500 rpm. This allows you to save a lot of fuel, and that greatly reduces emissions too.

After sweeping the streets, it is very important to clean the sweeper. The combination of organic and inorganic substances, compounded with moisture, makes daily cleaning essential.

Daily and weekly checks and maintenance are worthwhile. Bearing in mind that a sweeper will have done about 800 km after operating two shifts, as compared with a car (Ø 55 km), checking the oil level after such a stint would seem to be absolutely essential.



Marcel Foletti, Technical Consultant
Bucher-Guyer AG, Municipal Vehicles, Switzerland

„Hornussen“, a sport like no other

Ernst Siegenthaler, a sales consultant for North-West and Central Switzerland, has been practising this typically Swiss sport enthusiastically for 21 years. Hornussen provides a real counterbalance to the demands of everyday working life. Added to that, the combination of concentration, speed, reaction and a feeling for the trajectory of the «Nouss» makes an exciting contrast.



Origins of Hornussen In the olden days, people used to hit burning logs down the mountains into the valleys to drive away evil spirits. Over the years, Hornussen moved to the valleys. Having evolved from an ancient tradition, Hornussen has remained a team sport to this day. With its simple rules and minimal costs, Hornussen is a game for all age groups, with the performance limits mainly depending on the player's commitment.

How to play The game is always played by two teams, each comprising 16–18 players, which take it in turns to strike and catch. The centrepiece of the game is a puck called a «Hornuss» or «Nouss» that serves as a projectile which the players out in the field have to try to intercept by throwing their catch boards («Schindel») into the air before the Nouss hits the ground. The Nouss is positioned at the tip of a ramp (in the launcher base) and held in place with a wad of clay. Positioning the Nouss

correctly requires intimate knowledge of the striker and his striking technique and material. With boldness and intense concentration, the striker tries to send the Nouss flying as far as possible into the playing field. The distance it travels is converted into points. This number of points is rated both as a personal score and as part of the team score. To guarantee fair conditions, the teams take turns striking and catching. If a Nouss hits the ground without being intercepted, the catching team receives penalty points called «Numeros». A Nouss reaches speeds of up to 300 km/h.

Ernst Siegenthaler, Municipal Vehicle Sales Consultant
Bucher-Guyer AG, Municipal Vehicles, Switzerland

Switzerland

The Canton of Solothurn goes clean

The Canton of Solothurn is going clean in both senses of the word: firstly, with the modern right-hand drive MAN TGS 18.360 4x2 BL, and secondly with the innovative Bucher Schörling sweeper bodies.

When the Canton of Solothurn's Transport and Civil Engineering Department put out a well thought-out, detailed invitation to tender based on practical experience, this marked the beginning of a successful joint effort between MAN Nutzfahrzeuge (Schweiz) AG in Otelfingen and Bucher-Guyer AG in Niederweningen. By combining the MAN TGS 18.360 4x2 BL carrier vehicle and the 7 m³ sweeper body of Bucher Schörling's Optifant 70, we were able to meet the Canton of Solothurn's specifications professionally and with a good price-performance ratio.

The chassis of the MAN TGS 18.360 4x2 BL has been modified to a width of 2.3 metres especially for narrow roads. The high-performance 360 hp MAN engine producing 1,800 Nm of torque powers an OMSI hydrostatic drive mounted by Bucher Schörling for sweeping and working. This allows the machine to operate efficiently even at very low speeds and minimises material wear and tear.

Besides the «normal» dual sweep configuration, the machine boasts a number of custom features, such as a high-pressure washing system, rear gravel suction unit, wanderhose and a side-mounted edger/scrapper combination behind the right-hand front wheel.

Between mid-August and early September 2008, three MAN / Bucher Schörling truck mounted sweepers were able to be delivered to their home bases at the maintenance depots of the Canton of Solothurn's Transport and Civil Engineering Department in Büsserach, Härkingen and Zuchwil.

A «clean solution» – so now MAN and Bucher Schörling wish the operators a safe drive!

Markus Staubli, Sales Manager for Switzerland
Bucher-Guyer AG, Municipal Vehicles, Switzerland

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