

# Valtra Team

Valtra Customer Magazine • 1/2009

**NEW!**

Frameless side window  
**improves work  
efficiency** Page 12

Juha Kankkunen  
shows you how  
to drive on ice  
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Valtra keep  
costs  
in check  
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## SVC cab improves work efficiency, page 12

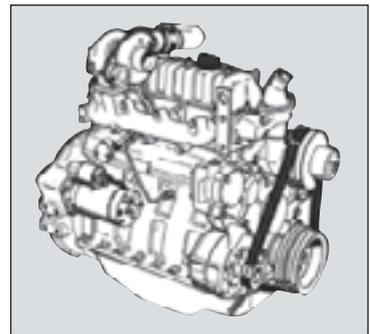
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dresses the entire family  
in quality and  
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**A factory  
reconditioned engine  
saves environment  
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As usual the SIMA Show in Paris earlier this year was attended by a fair number of British and Irish farmers and pleasingly the mood was generally quite buoyant. British farmers have the advantage of a poor pound so locally grown food will have a financial edge in UK shops. Poor harvests in various parts of the world set against increasing populations mean cereals continue to be in short supply so prices should improve in the short term. Looking at the long view, an increasing number of the world's growing population is crossing the financial threshold that allows them to move on to a meat based diet. Demand for crops of many types from which to produce biofuel continues to increase. Overall, the Worldwide demand for agricultural products continues to grow.

Against this AGCO have announced impressive, positive financial results and continue to invest in both improved production and research. At Valtra we recently announce two new transmissions for our N and T series and a complete new S Series of high power tractors. New tractor development continues in our recently opened research facility; all this despite current gloomy world finances.

That said I'm sure you will agree that now is the time to plan for the future. The N and T Series Versu models with five speed powershift transmissions, and Direct models with constantly variable transmissions are coming on line, to be followed by powerful S Series machines. Now is the time to contact your Valtra dealer and get your name on the list for a demonstration so that when the all important autumn cultivation period comes along that new machine will be on order ready for delivery just when you require it.

Think and act now so you're at the head of the list for new equipment in the autumn.

Mark Broom

## Valtra Team

### Valtra Customer Magazine

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#### Publisher

Valtra Inc., Finland, [www.valtra.com](http://www.valtra.com)

**Translations by** Crockford Communications

**Layout** Juha Puikkonen

**Printed by** Acta Print Oy

**Photos** Valtra archive if not otherwise mentioned

*A mixture of live stock.*



# Open to the public



*Cannon Hall Farm can handle up to 800 children daily – and provide trained guides.*

***During the 80s it became clear Cannon Hall Farm's 126 acres of were insufficient to support the extended Nicholson family; Roger and Cynthia and their three sons David, Robert and Richard.***

Cannon Hall and the farm, once part of the Spencer Stanhope family estate, were sold some 50 years ago. Barnsley Council purchased the house, now a museum, and the Nicholson family, Roger's father, purchased the farm. Later, in '79 with a museum literally on their door step, Roger and Cynthia Nicholson opened a tea room. However despite this extra income the farm remained unprofitable during the '80s. Drastic changes were required to prevent financial disaster and the decision was made to open the farm to the public. After securing a new source of finance Cannon Hall Farm opened its gates to the public in 1989.

"That was at a time when open farms were first becoming popular," recalls David Nicholson. "Location is everything and we're pretty luck here." Indeed, with the M1 just down the road Cannon Hall is a short drive from a number of cities and large towns including Barnsley, Leeds and Bradford and Sheffield. The Manchester conurbation is just across Howden Moor.

In that first year 26,000 visitors came to Cannon Hall. Ten years later the number has increased almost tenfold, exceeding 250,000 in 2008. "But remember, that's visitors to the farm. We have a tea room, delicatessen and farm shop on the site. Some folk just come for a cuppa, or to do some shopping. Add those to the equation and I don't think 1 million visitors is an exaggeration," says David. Indeed on a weekday in early March with snow in the air the 250 seat tea room buzzed with young and old alike; and that's without school parties

that are provided with their own indoor picnic facilities.

What has made Cannon Hall Farm, a multi award winner, so popular? The answer has to revolve around planning, and that's not only planning as in forward thinking but also as in working with the Council planning authority.

"There can be no shortcuts, they only come back to haunt you – we do it right and do it once," explains David. Unfortunately that does mean all sorts of paperwork from risk assessments for school visits to licences for music in public buildings plus of course all the farm records. There are two sides to the farm's activities; animals associated with commercial farming and the exotic, what are best described as pets. The farm has 450 breeding ewes and 30 sows, the progeny of which along with finished beef bought in as stores all find their way into one of the farm shops or the tea room. The exotic: lamas, alpacas, goats – Pig-

my and Nubian, African sheep, donkeys, Shetland Ponies plus rabbits, Guinea Pigs, budgerigars and chickens and turkeys and many more are, as David Nicholson explains, "strictly for looking at. Any surplus are sold as pets." This means that while spring is naturally busy, there are baby animals about year round for young and old to look at. But remember, while Cannon Hall Farm is open to the public the commercial enterprises are just that, commercial. Days to slaughter weight, twins, singles and litter sizes are just as important here as on any farm.

One important aspect is safe public access so feeding is mostly done in troughs rather than on the floor where it could be trampled by visitor's feet or become a trip hazard. Water troughs are put out of the way of tiny arms and fingers and, while some animals may be friendly and strokeable some types are not, particularly sows with young. These and many other factors all have to be considered when planning buildings and pens.

All these livestock units take a lot of feeding and the farm, now at 200 acres, is nearly all grass for grazing or haylage.

"We do grow 30 acres of fodder beet for the sheep," explains David. Machinery on the farm is kept on the top line, it would not do for the public to see time expired abused kit, and

with the public on site from 10 am to 6 pm the times when tractors can move freely around buildings safely is strictly limited. Reliability is a key factor. Cannon Hall Farm runs a pair of Valtra N Series tractors. A 2½ year old 101 hp N91 with a good few hours under its belt and a few month old N92 with loader.

"They're reliable and so is the dealer – Sovereign Agricultural Services – just up the road at Hepworth." Haylage has been the province of a contractor but now the purchase of a mower is being considered. "It will give us more control and hopefully better quality silage," David explains. Feeding around the improved yards of the original farm buildings, a recently commissioned round house and newer barns, some away from public areas, is done with a Keenan diet feeder. Other jobs handled by the pair of Valtra tractors include mucking out and muck spreading, fertiliser spreading and all the other usual jobs connected with a grassland farm – but this is one that is well and truly in the public eye. David Nicholson and the usual driver of the newer tractor, Nigel Elliott, both like the cabs – comfortable for a long day's work and quiet. As David explained, "We did try other machines before committing to the Valtra but they did not come up to the mark."

So with 250,000 visitors to the farm and a further 750,000 on site visiting the tea room, delicatessen and farm shop does the farm support the now much extended family? Yes and then some. Cannon Hall Farm provides regular work for 145 full and part time employees: farm staff, butchery and bakery staff, shop assistants, tea room waiters, car park attend-



**David Nicholson (left) with farm driver Nigel Elliott – 'a man of many talents'.**

ants – "eight on a busy summer day" – and guides. The farm can cope with 800 children a day and with the facilities available it's popular with schools as staff work to National Curriculum guide lines – and there's no fudging, if a child asks what happens to little piggies or cuddly lambs they're told – they finish up in the shop or on a plate in the tea room. And once they've finished looking at animals there's a spectacular adventure playground with £150,000 of equipment, "one of the best in the north of England – probably," where youngsters can let off steam on slides climbing frames and towers. A separate area takes care of really young children and there is seating for the not so young.

And the staff what do they think? Its enjoyable secure work, but as Nigel Elliott says, "dealing with a recalcitrant child and parents takes a lot more tact than handling a ram or boar in a bad mood!"

Check out [www.cannonhallfarm.co.uk](http://www.cannonhallfarm.co.uk)

■ Roger Thomas



**The farm butchery supplies the shop and tea room and bakery. Beef is hung for four weeks before butchering and sales.**



**The farm shop sells a wide range of farm produced and proprietary products.**



# Contractors drive new Versu and Direct models for 2,000 hours



*Tractor contractors Ville-Matti Vuollet, Juho Isopahkala and Juha-Matti Vuollet got to drive prototype versions of the Versu and Direct models for around 2,000 hours. The main benefits proved to be lower fuel consumption and how simple they were to drive.*

## Unbelievably easy to drive!

***Kalajoen Neliveto is a Finnish contracting company that carries out agricultural and other tasks using tractors. Most of the work is performed on a livestock farm with 1,500 bull calves, but over a third of the time is devoted to contracting work for other customers. Kalajoen Neliveto was one of the contracting companies that was given the chance to test drive prototypes of the Versu and Direct models.***

"We racked up around 1,300 hours on the Direct model and another 700 hours with the Versu. We performed all kinds of farming and contracting tasks with these tractors," explains Ville-Matti Vuollet.

The tractors were tested from January to September 2008 in weather conditions that ranged from below  $-20^{\circ}\text{C}$  to above  $+30^{\circ}\text{C}$ . During the winter the tractors were used, for example, for snowploughing.

"Then we used the tractors to spread around 25,000 cubic metres of slurry using 24-cubic-metre tanker and a surface spreader. We also sowed 400 hectares of fields using a four-metre direct driller. For preparing the fields the tractors were used to pull a disc cultivator.

For harvesting a four-cylinder Direct model was used to pull a tedder and a six-cylinder model to pull a self-loading wagon. Simpler tasks included grinding a round a thousand tonnes of grain using a hammer grinder, while more unusual tasks included mulching a road with the Direct at speeds of less than 3 km/h," describes Juha-Pekka Vuollet.

The tractors were prototypes, so at first the software was still rather undeveloped. For example, operating the powershift was not always as smooth as on the finished product. Nevertheless, the new transmissions proved to be reliable and never left the drivers standing by the side of the road.

### **Easy driving with stepless transmission**

The contractors with Kalajoen Neliveto praised how easy the new tractors were to drive. The company employs many drivers, but teaching them how to drive the new tractors was never a problem.

"Even a person who has never driven a tractor before can get behind the wheel of a Direct or Versu model and drive. Naturally, the more you learn about the new tractors, the

more useful features you discover. An experienced Valtra driver will no doubt be able to make the most of all the new features," says Juho Isopahkala.

The new transmissions were at their best when used for tasks that required steady rpm.

"Pulling drillers was a piece of cake. The stepless Direct was also great for pulling cultivators and self-loading wagon."

"Filling the slurry tanker was very fast thanks to the 160 l/min hydraulics. The new Direct model filled the 24-cubic-metre tanker faster than the T191 Advance managed to fill a 17-cubic-metre tanker. There was also a huge difference when pulling away with the slurry tanker using the new transmission."

"The new controls in the cab are good, as are the H9 lamps. There are also many different ways of driving. For example, the speed can be controlled using the throttle pedal, the hand throttle, the ratio switch or the cruise control, which has two memory settings."

The drivers from Kalajoen Neliveto did not use the crawling range (A) very much. Most of the tasks were performed in the C range, which automatically switches to the D range when driving faster along roads.

The adjustable pulling force and hydraulics assistant, which automatically increases rpm when the hydraulics need more power, were also praised.

"It took a little time to learn how to use the hydraulics assistant. For example, when loading trailers it was not necessary to press down on the throttle. On the contrary, you had to learn to lift your foot completely to prevent the tractor from moving forward and to activate the hydraulics assistant," Ville-Matti explains.

Adjustable engine braking proved to be an important feature in wintertime. On icy roads engine braking can be a safety risk if it is too strong, causing the tractor to skid on downhills. Now the driver can adjust the amount of engine braking accordingly.

### Considerable fuel savings

A surprising advantage proved to be the considerable fuel savings. The powerful AGCO Sisu Power engines are known for consuming relatively small amounts of fuel under heavy loads, even though consumption in light work is relatively high.

"The fuel consumption of the stepless Direct model in particular was much lower than on our other Valtra tractors. The engine always runs at optimal rpm, and the gear ratio is always the best possible. The intelligent engine and transmission electronics take care of all the thinking and prevents the driver from doing anything wrong. When driving on roads, the Direct model consumed over two litres of diesel less than a comparable Valtra. And this was a prototype model, don't forget. On the production models the software is even more advanced," says Ville-Matti.

The less experienced the driver behind the wheel of the tractor, the greater the potential savings in fuel consumption. A skilled driver knows how to conserve fuel when driving, but the new models can drive even more efficiently than the best driver – even though in theory stepless transmissions always have slightly more power loss than fully mechanical transmissions.

"The four speed ranges on the Direct model is a brilliant invention. In effect, the tractor has four stepless transmissions, and the best range can be selected for the task at hand. Stepless tractors that offer only one or two ranges require making compromises, as the ideal efficiency can only be achieved when driving with two or four speeds. Direct models offer eight speeds to choose from, so nearly all tasks can be performed with the optimal efficiency. Even in the other speeds, the efficiency is very good."

■ Tommi Pitenius

**Even a person who has never driven a tractor before can get behind the wheel of a Direct or Versu model and drive.**



*The test tractors were used to carry out a wide range of agricultural and other contracting tasks in conditions ranging from -25°C to +30°C.*



# Its not just horse feed – **its quality horse feed**



**Ken and Neil are pleased they made the change to Valtra – reliable and competitively priced with excellent retail value.**

Eleven years ago it was obvious to Ken Hayter and son Neil their 74 acre dairy farm north of Wimborne, Dorset did not have the potential to support both families. "Land was available nearby but nothing adjoining Rowe Hill Farm – walking distance for cows at milking – expanding the herd was impossible," recalls Ken. "We had a good think and it was pretty obvious horse numbers were expanding rapidly – there are probably more horses around today than there ever were cows. Neil and I decided selling the stock and producing fodder for equestrian establishments was probably the best option."

Today Heyter's is well known in equestrian and small holder circles, the 175 acres run alongside buying standing straw and managing a neighbouring 400 acre suckler beef unit.

Grass production for hay and silage is essentially quite simple, in spring the land is rolled and harrowed before being treated with calcified seaweed plus nitrogen and sulphur ready for a first cut for haylage in June. For this the Hayters use a 2.4 m mower and 8 m tedder. The crop is pretty evenly split between large and conventional small bales. "A contractor bales and wraps the large square bales, round and conventional bales we do ourselves," Neil explains. "Our round bales are smaller than most farmers would want – stables rarely have telehandlers or loaders so they have to be 'pushable' – usually by a couple of ladies." After the first cut, the grass is again top dressed with N and S. "Where possible the second cut

is made into hay; "there's more chance of better weather later in the year." Along with the 7,000 small hay bales and the 1,500 large bales of haylage and hay the team also produce some 10,000 small bales and a good few larger bales from straw purchased from farmers within a five or six mile radius. At the end of the mowing season the pasture is let to a neighbour as winter grazing for sheep. "They do a wonderful job helping maintain pastures," comments Neil.

The equestrian market is very quality conscious and Ken and Neil are well aware that not meeting top quality standards could leave them with an expensive heap of bales. One route to top quality feed is to use reliable equipment, cutting grass when it is at its peak, baling when ready – not day's later because machinery is broken. As a result Ken and Neil opt for the best equipment. A couple of years ago they were approached by Kevin Cook of Valtra dealer, Drews of Dinton Ltd. "We'd not thought much about Valtra up to then but after bargaining hard we reached an acceptable price for a couple of Valtra N91s with loaders." Ken and Neil agree the tractors were initially purchased more or less on price – they had the power to drive the mower and other equipment and, because the pair work long days they needed to be comfortable. "During that first year we clocked up over 1,000 hours on each and, importantly, there were no problems at all – more reliable than any previous

tractor." The pair of Valtras also proved they had other advantages; doing comparable work over a twelve month period, they used considerably less fuel than the tractors they replaced. "With diesel the price it is that's important," comments Ken. Things were looking good on the tractor front and they got better when Kevin from Drews made them a decent offer to update both machines in the spring of 2008. "Valtra tractors have one of the lowest depreciation rates around and I had a customer interested in a couple of low hour machines," explains Kevin. As a result we were able to do a deal and the N91s were replaced with a pair of 110 hp N101s. "We ordered them with loader brackets and integrated controls but kept the original booms – that was a good financial move," Ken remembers. "The joystick integrated into the arm rest makes operating the loader easy - we do a lot of loader work – the tractor's compact design makes them ideal."

Alongside the forage business Ken, Neil and their wives Ann and Gina have developed a successful retail store selling a host of proprietary feeds: horse nuts, cat, dog and chicken feed and so on. They stock equestrian accessories and have branched out into chicken coops – a success all around. And the new tractors are they a success? With a season's work behind them the answer is an unequivocal 'yes', and with the Valtra's lower fuel costs they're looking forward to a rewarding year to come.

■ Roger Thomas



**Hayter's is a family business that has expanded beyond forage into proprietary feeds and equestrian accessories (L to R Ken Hayter with wife Ann, Gina Hayter with husband Neil).**

# Valtra Collection Traditional and youthful!

*The new Valtra Collection 2009–2010 was unveiled in November 2008. The collection is the result of long-term work that began almost two years before the launch. For the first time a single professional head designer was responsible for creating the Valtra Collection. Designer Kaisa Syväsalmi has decades of experience in the Finnish design and sports clothing industry.*

Kaisa Syväsalmi, who previously worked as chief designer for clothing company Halti, approached the task of designing the new Valtra Collection with enthusiasm. The starting point for her design work was to make the clothing functional. Valtra clothing has to work in all weather conditions. Syväsalmi, who loves the outdoors, wanted to introduce a fresh and youthful style without compromising our heritage.

The primary customer segment for the Valtra Collection consists of owners of Valtra tractors and their family members. This covers a very broad range of people, as the main age group ranges from young farmers to older Valtra owners. Kaisa Syväsalmi welcomed the challenge of designing for several generations and was eager to introduce fresh and youthful details to the collection.

## Inspiration from the factory and its history

The designer sought inspiration by delving into Valtra's history and touring the Suolahti tractor plant. She was keen to interpret Valtra's design language for the new clothes in the Valtra Collection. For example, she came up with the idea for the winter coat while sitting inside a tractor. The lining of the coat suggests the interior of the cab, and even the pattern on the seatback is repeated. The outside of the coat reflects the streamlined design of the tractor.

After selecting and refining the products, the next phase of the project was to plan production. The final choice of materials was made only after the first examples of the products had been made. Syväsalmi was actively involved also in this stage of the project analysing the samples.

## Clothing for work and play

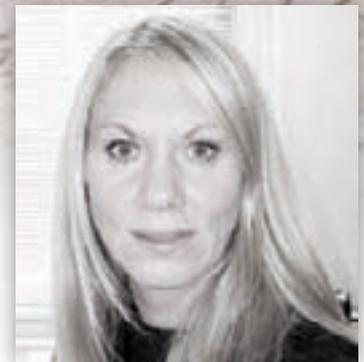
The products in the Valtra Collection were given names for the first time. The names evoke

*The Valtra Collection has offered families clothing and accessories for work and leisure for over ten years, and sales have increased each year. The products featured in the Valtra Collection are all high quality and individual. The assortment includes Valtra products for summer and winter, as well as for work and play.*

Valtra's history, such as Tourula, the location of the former head office, and Mezzo, a classic tractor model. Just as with Valtra's tractors, the items in the Valtra Collection are of the highest quality.

The Valtra Collection is divided into three parts. Valtra Farmer includes traditional clothing and accessories, as well as work apparel. Valtra Performance offers youthful clothing for active recreation, including a high-quality Goretex outfit named Ilmari that is ideal in all weather. Valtra Pulling consists of products for tractor pulling fans. The Valtra Collection also includes accessories, gifts and toys.

■ Heidi Kämäräinen



*The designer of the latest collection Kaisa Syväsalmi has previously designed clothing for for such Finnish brands as Halti, Luhta and Rukka.*

# Juha Kankkunen Driving Academy



*Four-time World Rally champion and Finnish farmer Juha Kankkunen runs a driving academy in Lapland over the winter season. Between 600 and 700 visitors from around the world attend the academy to uncover the secrets of winter driving.*



# Valtra tractors shine at the Juha Kankkunen Driving Academy

**For many years there has been a saying in motorsports that “If you want to win, you need a Finn.” This claim has been backed up by such Finnish Formula One world champions as Keke Rosberg, Mika Häkkinen and Kimi Räikkönen, as well as by Finnish World Rally champions (and farmers) Marcus Grönholm, Tommi Mäkinen, Ari Vatanen and, last but not least, four-time world champion Juha Kankkunen.**

“Farmers are naturally well prepared for rally driving, as they can practice on their own roads and fields. Furthermore, farmers are instilled with a strong work ethic from an early age, and they are used to working with machinery. In Finland they also learn to drive in slippery conditions,” Juha Kankkunen explains.

Juha, who turns 50 this year, began driving at the age of seven. He estimates that he has driven two million kilometres of while competing, testing and practising for rally events. Few people drive that much in their entire lives!

“For example, the 1988 Paris-Dakar rally covered 16,000 kilometres, and the longest special stage was 1,100 kilometres. It’s easy to rack up the kilometres in such circumstances.”

“The fastest stage during my career was in Peru, where I covered 109 kilometres at an average speed of 242 km/h. We used extra long gearbox ratios on my Group N Subaru, because we knew that most of the distance would be run on motorways,” Kankkunen comments.

## Sharing experience through the Driving Academy

These days Juha Kankkunen shares the experience he amassed during his long career behind the wheel at the Juha Kankkunen Driving Academy. The school operates for around three months over the winter in Kuusamo in Finnish Lapland. A total of 16 tracks are ploughed on the frozen lakes, allowing students to learn how to drive fast yet safely on slippery surfaces. A special course is also available for rally drivers.

“Each year around 600 to 700 customers attend the academy. In addition to myself, the instructors include national and international level rally drivers. The largest private group consists of Bentley customers, who arrive from all over the world,” Kankkunen reveals.

Although Bentley customers naturally drive Bentleys, other customers are generally taught in Volkswagens. The fleet of cars features front- and four-wheel-drive models, Tiguan SUVs and Golf hatchbacks, automatic and manual transmissions, diesels and gasoline engines, and even a 250-horsepower R32 model. Customers can also opt for a ride in a Subaru Group N rally car.

“To make and maintain the tracks we use two Valtra T191 tractors. After every snowfall there is lots of ploughing to be done, and because of the tyres used on the Bentleys, the tracks have to be ploughed and cleaned every morning, even if it hasn’t snowed overnight. The tractors are also used to pull cars out of the snow – up to 150 times on a good day!”

The tractors rack up over two hundred hours a month, and Kankkunen himself is behind the wheel most of the time. Ploughing the tracks is a vital task to ensure that the corners flow and that the layout is suitable for instructing students.

## A T151 and forest on his farm

Kankkunen lives on his farm in Lankamaa, Laukaa, just 12 kilometres south of the Valtra factory in Suolahti. While Kankkunen is at his academy in wintertime, his 400 hectares of forest are maintained by a forester and a forest machine operator.

“We also have around 100 hectares of fields, but they have been leased out. We also kept 120 cattle and 600 pigs at one time, but now the fields are used for crops,” Kankkunen says.

His tractor at home is a Valtra T151 HiTech, which he purchased last autumn in exchange for his previous N121 Advance.

■ Tommi Pitenius

**Kankkunen has leased out the fields on his farm, but he still cultivates 400 hectares of forest with the help of a forester and forest machine operator. Kankkunen himself racks up several hundred hours behind the wheel of his Valtra tractors each year.**



## Side Visibility Cab is ideal for road maintenance, livestock farms and forest work

## New SVC cab improves usability, safety and visibility



*The SVC cab is good option for farms, offering enhanced efficiency and versatility at a low cost.*



***Valtra introduced its new Side Visibility Cab (SVC) at the SIMA exhibition in Paris at the end of February. Paris was the perfect place to introduce the new cab innovation, as Valtra tractors specially fitted with integrated side windows have been used in France for several years already.***

“Each year farmers and contractors in France order dozens of Valtra 6000 Series tractors equipped with large integrated side windows. When production of the 6000 Series ended, we asked Valtra to develop a similar cab for the new N Series,” explains Product Manager Gregory Fourmont from Valtra in France.

Valtra will offer the new SVC cab not only in France but in all its markets. Farmers and contractors outside of France are expected to welcome the innovation with open arms.

“The reception has been really positive. Contractors who have to mow roadsides, farmers who have to feed livestock and forest workers who have to thin trees all share the same needs. The SVC cab makes performing these kinds of tasks much more efficient. Even in England, where they drive on the left side of the road, the SVC cab is ideal for working with implements in reverse and for all sorts of other tasks around the farm,” says Project Manager Petri Loukiala.

### **Much more than just an integrated window**

The SVC cab means much more than just an integrated window on the right side of the cab. For example, with SVC cabs it is possible to reduce the width of the right-side mudguard by removing the extension piece.

This further improves visibility, especially with thin or normal-sized tyres.

The side window on SVC cab is fitted with a wiper to maintain visibility in case of rain. The side and rear windows are made from polycarbonate, which protects the driver from flying rocks and other debris.

Combining the SVC features with a forest cab creates unrivalled visibility both to the side and upwards. For road maintenance, the SVC cab can be combined with other traditional Valtra features, such as factory-fitted industrial tyres, yellow or orange paint, a front loader, a front linkage, TwinTrac reverse drive controls and front axle suspension.

### **Increased comfort for a variety of tasks**

The SVC cab was designed according to the needs of road maintenance contractors. The



*The new SVC cab is ideal for municipal contracting, such as mowing roadsides, as well as for farming and forest work.*



*The SVC360 cab offers excellent visibility both to the side and upwards.*

*Visibility from the cab is much better when not obstructed by a B pillar. The thinner rear mudguard also improves visibility, while the side wiper keeps the window clean. The polycarbonate glass protects from flying rocks and debris.*

advantages of the new cab are highlighted especially when mowing roadsides and snowploughing. However, the SVC cab is also ideal for many other types of work. When felling or loading trees in the forest, excellent side visibility and protection are required. When feeding and tending to animals in barns, visibility downwards and to the side is essential. When mowing and performing other tasks on fields, the enhanced visibility offered by the SVC cab is a clear advantage.

For municipal contracting, tractors are generally much more cost efficient than specialised machinery. Tractors retain more of their value, are less expensive to maintain, and offer the added benefit of a better service network. Tractors also offer unrivalled versatility, as the same machine

can be used for mowing roadsides, snowploughing, loading with the front loader and transporting with trailers, as well as sanding, scraping, sweeping and washing roads, paths and walkways. Naturally, they can also be used for all farming tasks.

“We expect SVC cabs to be very popular among full-time contractors, as well as farmers who supplement their income by contracting. The SVC cab is a sensible option, as it does not restrict the number of normal tasks while offering many new opportunities,” Loukiala points out.

■ **Tommi Pitenius**

## SVC – Side Visibility Cab

- Available on N Series tractors
- Integrated side glass on the right-hand side
- Thin rear mudguard on right-hand side
- Polycarbonate glass protects from flying rocks and other debris
- Side wiper keeps glass clean
- Available also as a forest cab
- Ideal for municipal and forest contracting, as well as on the farm

# Engineers lend farmers a helping hand

*Last winter in Finland a customer who had purchased a demonstration model was promised that he would also receive the use of a farmhand for one day to seal the deal. Accordingly, Valtra's salespeople, financial managers, product developers and production personnel took turns in handling the tasks*

05:50  
am



We leave with R&D engineer **Timo Peltola** from his home in Saarijärvi. Peltola lives in the countryside around 50 kilometres from the Valtra factory. His wife grew up in the same house, but the fields have since been leased out. In the yard stands a Valmet 502 that is used for making logs, snowploughing and ploughing the garden. Timo's wife and 9-year-old son **Tommi** are still sleeping, and his two older daughters have already moved away from home. We take with us a chainsaw, an axe, protective boots and warm clothing, as we expect to be outside splitting logs today.

08:40  
am



Timo arrives at **Eero Hemminki's** dairy farm in the village of Huiisi in Ilmajoki. Eero and Seija have already milked the cows, and the sun has risen, so we are put straight to work on the logs. Eero has around 80 head of cattle, including 28 milking cows and calves, as well as bulls. The farm has been in the same family since 1709, in other words for exactly 300 years!

START

12:00  
noon



Time for lunch. **Seija** has spent the morning in the barn helping a heifer give birth. She has also found time to make minced meat sauce and mashed potatoes. We chat about both Valtra and the farm.

12:45  
pm



After lunch Timo offers Eero tips on how to use and maintain his tractor. Timo designs electric harnesses for his work, so he knows all the tricks about the electrics on all kinds of tractors. We find out that Valmet tractors have been driven on the Hemminki farm for over 40 years. The farm's first Valmet was a 565 that was purchased in 1968.

# Valtra employees put to work on farms

*on the farms. The feedback was positive on all sides. Valtra employees had the chance to acquaint themselves with the everyday work of farmers, while the customer found out more about Valtra's operations. Here we describe the typical day of a Valtra farmhand:*

We begin making firewood. The wood was brought from the forest around a year ago and cut into one-metre-long logs that were then split and stacked. The logs are now cut into three pieces, and the larger pieces are split again. The Valtra 900 spins the saw, while a Valtra N141 HiTech awaits with a trailer to be loaded.

08:50  
am



09:30  
am



11:30  
am



Around ten loosely stacked cubic metres of logs have been loaded in the trailer and are then emptied through a hatch into the cellar of the house. The wood is used to heat the house, water, oven and sauna. The large cellar can store up to 20 cubic metres of wood alongside the stove and a 2,000-litre boiler.

Eero's 4-year-old nephew Antti is keen to help out. The temperature is just below zero and it is snowing, so the boy warms up by sitting in the cab of the N.

In the afternoon the belt on the circular saw begins to slip, and the blade begins to catch. Timo takes out his chainsaw, and to everyone's surprise we continue to make as much progress as before with the chainsaw.

2:30  
pm



4:15  
pm



The chopping is down. Another load of wood is driven to the warehouse, as the cellar has already been filled. Altogether we have managed just under 20 cubic metres. Timo says goodbye to Eero, Seija and their cat. We still have a long drive home ahead of us in the snow and on slippery roads. Timo makes it home to Saarijävi at 7:30 pm, long after the sun has already set.

**STOP**

# A factory reconditioned engine saves both the environment and money

All engines eventually wear out – even a AGCO Sisu Power. A well-maintained engine should last over 15,000 hours in tractor use, around 25,000 hours in forest machines or harbour cranes, and some AGCO Sisu Power maritime engines have run as many as 70,000 hours. When an engine comes to the end of its road, a factory reconditioned engine is a sensible alternative that saves both the environment and money.

“All engine models manufactured by AGCO Sisu Power are available as factory reconditioned engines that come with the same warranty as new engines,” explains Jukka Vappula from AGCO Sisu Power.

A team of 15 technicians at AGCO Sisu Power Linnavuori plant recondition around 700 used engines a year. Short block and long block engines take just a day to complete, while five days are required to finish a complete engine. For customers, changing an engine during servicing is faster than waiting to have an old one repaired.

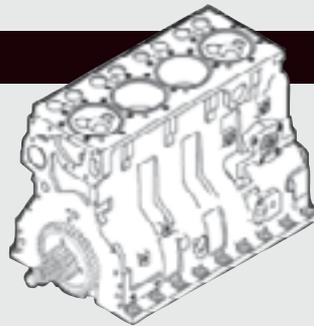
Sometimes only the engine block can be reused – after it has been polished and cleaned, of course. Connecting rods and machined crankshafts can also be reconditioned if they fulfil the same criteria as new parts. All components that are prone to wear, such as pistons, cylinder liners, bearings, gaskets and moving components on the engine head, are always changed.

Reconditioned engines are comparable to new ones and also tested accordingly. Once they are repainted, the reconditioned engines even look brand new. All the updates that are available for each engine type are also made.

Reconditioned engines cost from 20 to 40 percent less than new engines. In addition, the engines are exchanged by authorised Valtra service dealers, who can offer a refund in exchange for the customer’s old engine.

■ Tommi Pitienius

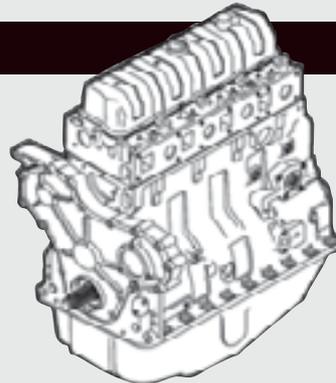
## AGCO Sisu Power reconditioned engine



### Short block

#### Includes:

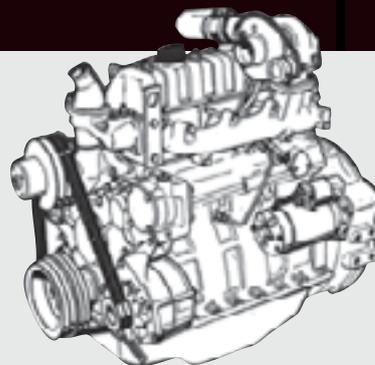
- cylinder block
- cylinder liners
- crankshaft
- pistons and connecting rods
- bearings
- oil pressure regulating valve



### Long block

#### Besides short block a long block reconditioned engine includes:

- cylinder head with valves
- camshaft and valve tappets
- valve mechanism
- oil pump and suction pipe
- counterbalance unit (4 cyl.eng.)
- oil sump (transport cover)
- timing gears and casing



### Reconditioned engine

#### Complete engine, ready for use!

- Updated according to the latest engineering modification
- Fully equipped, according to application
- Test-run engine
- Warranty 12 months or 3000 running hours. Main components have a warranty 24 months or 5000 running hours

[www.agcosisupower.com](http://www.agcosisupower.com)

# German municipalities drive Valtra tractors

*An increasing number of German municipalities are using Valtra tractors for a wide range of municipal tasks. In recent months new Valtra tractors have been delivered, for example, to three municipalities in southern Germany.*

## Stadtwerke Ochsenfurt (KSO) receives a new Valtra N101 HiTech



*The Valtra N101 HiTech at working mowing roadsides.*

The managers at KSO had wanted to replace their old MB Trac 900 tractor for a long time. They needed a tractor that could be used for a wide range of tasks, including taking care of the city's 330 hectares of forests, as well as its parks and roads, also in wintertime. The condition for purchasing a new tractor was that it could use the existing implements that had been used with the old MB Trac and Unimog tractors.

The company Spinner in Großbrinderfeld complied and delivered a new Valtra N101 HiTech last November. The tractor featured factory-fitted front hydraulics and a front PTO axle. It was also

specified with forest tyres and a driver's armrest with integrated controls for using implements attached to the front linkage.

"A special challenge was having to change the new tractor's PTO, like we did with the old machines," says **Ludger Heydler**. For this reason the Valtra N101 HiTech was fitted with a fixed municipal attachment plate and front PTO. The attachment plate was then moved upwards and to the left to allow all the Unimog's implements to be attached to the Valtra. As a result, KSO received the optimal tractor that meets all its demands.

## Merkendorf receives a new Valtra N111e



*Delivery of the tractor in November 2008. From L to R: Site Manager Edmund Derr, Mayor of Merkendorf Hans Popp, Thomas Heiß, Rudolf Heiß and Ludger Heydler.*

The town of Merkendorf selected a Valtra N111e when it needed a new tractor last year for municipal tasks. The tractor was supplied by the local dealer Landtechnik Heiß. Merkendorf is one of 15 municipalities that is participating in the German Ministry of Agriculture and Forestry's competition "sustainable land use in Bavarian municipalities", which will allow the use of the term "energy region".

The Valtra N111e sports the latest metallic orange colour, and its EcoPower engine produces 122 horsepower. When in Eco mode the

engine speed drops to 1,800 rpm without affecting power. At the same time fuel consumption is reduced by 20 percent and noise levels by 4 to 5 decibels. Furthermore, the piston speed is 20 percent lower, so the lifespan is increased by a corresponding amount.

The EcoPower feature of the N111e improves efficiency, saves the environment and enhances driver comfort. In other words, it is the ideal tractor for helping Merkendorf achieve its targets in the energy project.

## Großheubach receives a customised Valtra N121 HiTech



*Pictured from left to right: Mayor Günther Oettinger, Harald Scherer, Ludger Heydler, Meinrad Lebold and Reinhold Zipf.*

Last year the Spinner company in Großbrinderfeld also delivered a Valtra N121 HiTech to the town of Großheubach. The new Valtra replaced an old tractor and is used with a front mower, a front and rear manure spreader, a snowplough and a salt spreader.

The tractor was specified according to the customer's exact wishes and existing implements using the Valtra à la carte order system. As a result, the tractor was delivered from the factory in the desired yellow colour and fitted with front axle suspension, EcoSpeed and cab suspension, a front linkage and front PTO, air-

conditioning and a compressed air system, and Nokian industrial tyres. Thanks to the integrated joystick on the driver's armrest using the snowplough is simple, power outlet makes it easy to control the salt spreader.

Großbrinderfeld decision to purchase a new Valtra tractor was based on the opportunity to specify the tractor at the factory and, above all, on the town's satisfaction with the service supplied by Valtra and its sales partner Spinner.

■ **Astrid Zollikofer**



**UFI's tractors are a common sight on Killybegs streets.**



**UFI's N Series bring in a constant supply of fish offal tipped for processing.**

## Valtra keep Donegal fish businesses moving

A sign informs visitors to Killybegs in North West Ireland that this is Ireland's Premier Fishing Port and the view over the town certainly reinforces the claim. But look again towards the outskirts there is evidence of numerous factories and further scrutiny reveals more along the town's side streets. Almost all are dedicated to processing fish, landed at the town's quays or trucked in from Cork in the south and Belfast in the east. The plants all produce waste, 80,000 tonnes of fish offal, and it is United Fish Industries (UFI) factory that reprocesses it, rendering it into 16,000 tonnes of fish meal and 6,400 tonnes of oil. Production at UFI is managed by John Hennigan whose remit extends well beyond his factory compound, to those of supplying businesses. Few processors have offal storage facilities and UFI provide trailers which are parked at the end of the production line. John's also responsible for changing these trailers regularly so that production at the packing plants and UFI is not hindered. The 80,000 tonnes of offal is collected by UFI's two tractors and fleet of 35 fourteen tonne trailers, some tankers some open topped, all have sprung drawbars and hydraulic brakes. Collecting and emptying the trailers falls to drivers **Stuart Cassidy** and **Francis Cunningham** who have an intimate knowledge of all the factories and how often trailers need changing. Until a couple of years ago they drove a pair of

six cylinder tractors. "They weren't particularly reliable, but what was worse, neither was the dealer," recalls **John Hennigan**. "I couldn't let the situation deteriorate – we've a production process to keep going." As a result John Hennigan developed a business relationship with McGinty Tractors on the outskirts of Donegal town. "They looked after the tractors well and a few years ago were appointed Valtra dealers." It was therefore natural that when UFI's tractors needed replacing they looked closely at Valtra. "We'd borrowed Valtras when our machines were being repaired or serviced, they seemed to be what we required." However, UFI did not take anything for granted and thoroughly investigated the Irish tractor market – and levels of support in County Donegal. "There is always the possibility that a machine will have a problem – no matter how good it is." Finally, John Hennigan came back to Valtra; "a good tractor supported by a good dealer." But he made one important change. "We decided on four cylinder machines – 120 hp Valtra 111s with EcoPower – They operate round Killybegs narrow streets and being much shorter than six cylinder tractors the driver has a better view, especially at road junctions." Now, after two years operation, usually working ten hour days during the season both John Hennigan and the drivers are pleased with their tractors; John because they have proved highly reliable;

"unlike their predecessors we've not put a spanner on them except for servicing." Stuart and Francis because they provide a comfortable driving environment during their long working days which involves frequent mounting and dismounting to change trailers "We have a belt and braces approach to closing the trailer's tailgates – screw and hydraulically operated clamps. "Fourteen tonnes of fish offal dumped in Killybegs High Street – that would not make us popular," concludes John Hennigan. "Good equipment properly managed – do the job right." Travel east towards Donegal town and turn down a lane simply signed to 'The Beach', and you'll come across the sorting and grading sheds of Donegal

**Deep sea boats unload at the town's quays and more fish is trucked in from other ports.**





*Graded oysters are packed in crates and stacked below the high tide line.*



*Donegal oysters, sold in European restaurants.*



*Bags of immature oysters ready for growing benches on the adjacent beach.*

Oysters Ltd. Founded in 1993, brothers Connor and Damian Read are licensed to operate on 45 ha along the tide line of a nearby bay. The brothers switched to Oysters after disease severely knocked back clam production in 1998. "We'd been thinking about a change – conditions here are better for oysters," explained Damian. Over the past ten years reinvestment in their business has been considerable as can be seen from the regimented growing benches revealed at low tide.

### **Valtra keep Donegal fish businesses moving**

Seed oysters, purchased in the UK or Europe, are put out in bags clipped to the benches and each tide brings new water loaded with plankton which the oysters filter out for food. However, seed oysters are not simply left to grow. Bags have to be turned regularly and as the contents increase in size they're regarded and re-bagged so the oysters grow into a first class marketable sample. "We're lucky here," points out Connor Reid. The high neap tides when we can't work occur mostly at night. We don't have to work too many unsociable hours." Out of 12 million seed oysters put out only 9 million make it through to 2 years. Only 3 to 4 million will reach marketable size – something like 40 tonnes. Starting from scratch and with a lot of hard work it's about six years before any

financial return is generated. Despite this lack of income grading tables have been purchased as have trailers and tractors to say nothing of large numbers of bags and benches. While in those early years it was OK to run cheap tractors – a good idea even, as driving around in salt water is highly destructive if the machine is not carefully washed with fresh water – it is a different matter once production starts. Having made a commitment to customers, it's imperative the goods are delivered on time. This led to Connor and Damian purchasing a pair of new tractors a couple of years ago. "What we wanted was machines with minimal electronic controls – and if there are any we wanted them well away from the water. After careful research Connor and Damian plumped for a pair of Valtra 98hp A95s complete with Valtra 35 loaders which, like UFI machines, were supplied by McGinty Tractors. "We've had these tractors for a couple of years now and they've proved totally reliable," comments Damian. With a good layer of burnt oil applied liberally, particularly to the lower parts of the tractor, and a careful washing regime they look almost as good as the day they were delivered. "Trailers are manufactured locally for us and are heavily galvanised – inside and out. They don't have brakes, we've no hills to negotiate and it would be difficult to keep them operational. However, we do try to avoid water that's

deeper than the axle centres. Apart from transporting bags and oysters between the farm and grading shed on a daily basis the tractors are also used for loading large baskets of marketable oysters for transport to the storage area. "During the height of the season we grade saleable oysters almost daily but may only have sufficient for transport once or twice a week. These oysters are packed into trays and loaded into large baskets which are stacked on the beach to be covered with water at each tide. At the last minute the oysters are removed to the packing shed, transferred to net sacks and stacked in batches of ten on pallets before being shrink wrapped for transport. "This method of working has the added advantage of utilising time more efficiently. We can place and remove baskets in the storage area while the growing benches are still covered with water," explains Connor. And the future? "Hopefully we'll be able to change the tractors regularly every three years – they clock up 1,500 hours annually and will still be in good condition." After two years Connor and Damian have not experienced any problems with their Valtra tractors. "We've every faith in McGinty Tractors, that they will look after us if need any help or when the tractors need servicing," concludes Connor.

■ Roger Thomas



# Heat for sale



*For maximum output Denton Park Estate uses a telehandler to load a table with rollers, ensuring the chipper has a constant supply of timber for maximum output – cut chips can be loaded into trailers or blown into store.*

***It's not often that Valtra Team re-visit a story but, two years on we thought it would be good to see what is happening on one estate that had then recently diversified. Good ideas are alright at the time but two years down the road?***

Denton Park Estate is 2,600 acres just to the north of Ilkley, Yorkshire and having dispersed their 300 head dairy herd and get out of milk farm manager, **George Bush**, needed a replacement enterprise to plug the financial gap – plus a bit extra – in the estate's income.

One obvious choice, increasing the size of the suckler beef herd to 150 cows has been successful and the 1,500 ewe flock of sheep still brings in a worthwhile return. But what about the idea of selling heat. Where has that gone?

Denton Park Estate is part of the N G Bailey Group, specialists in mechanical and electrical engineering and the company's head office is the Grade 1 listed Denton Manor house. Here, a few years ago, the need for a new heating system prompted discussions which lead to a completely new business for both N G Bailey and the estate: heat from wood chips.

## **Payback in four or five years**

In simple terms, while the cost of installing a bio-fuel boiler is greater than a conventional gas or oil burner the difference in heating costs is around 50 %, with gas at that time coming in at 3 p per kW/hr and wood at 1.7 p per kW/hr. Payback on the increased investment would be four or five years, while the boiler life should be in the region of 25 years. Today those figures are more significant with gas at 6 p per kW/hr and wood chips at 3 p per kW/hr.

The financial advantages of wood chip as a bio-fuel remain obvious to all and the joint venture mounted between N G Bailey and Denton Park Estate – Bailey supplying customers with heating equipment, and the estate fuel – is going from strength to strength with the main target areas of operation being offices, commercial, and social and amenity buildings such as swimming pools and, to an increasing extent, domestic home development.

## **Origin of chips in sustainable forests**

So where does the timber come from? George Bush explained: "The estate has a certain amount, but most is being purchased from within a 30 mile radius."

The timber is all of high quality and would otherwise probably be destined for chip board manufacture. Fortunately, for Denton Park Estate, major manufacturers of chipboard are some distance away, so with reduced haulage costs the estate can afford to pay producers attractive prices.

In charge of the wood chip operation at the estate is **James Bush**. "The system is designed to be run entirely from sustainable forests. We work with forestry consultant, **Ted Downs**. He organises felling and extraction, mostly with a Valmet processor; transport of round timber to our bases and the subsequent replanting. Everything comes with an FSC certificate and we can tell customers the origin of chips in their store."

Round timber is left for nine to twelve months to season; ideally, the moisture content should be down around 25 % to 30 %. However, once chipped there is the possibility that dry chips will reabsorb water so it is preferable to chip the timber only a short time before delivery. A second reason is transport: the increase in volume between round wood and chips for a given weight is considerable, adding to costs. From 700 tonnes during the

first year of operation, sales have risen to 1,700 tonnes during the current year and are expected to double to 3,500 tonnes by 2010/11.

"While some of our sales are seasonal, we do supply facilities such as swimming pools which require heating year round," explains James. "With N G Bailey designing and installing most of our customer's heating systems we get a heads up pretty early on. This gives us ample time to ensure round wood is cut for drying before chipping. We are also in close contact with the Forestry Commission over future supplies and they don't see any problems over future supplies."

#### **Reliability and comfort of Valtra TwinTrac**

So that's the game plan; what gets the job done? The estate costs the chip business separately and uses Valtra machines: a T150 and T130 on trailers and a S280 to run the chipper. "We no longer use the tractors for chip delivery unless its just up to the Manor House, regulations governing road operation of tractors for non-agricultural use are complicated and with distances involved plus the fact that N G Bailey have a fleet of artic units it was sensible to go that route." Denton Park first tried Valtra when one of their other machines broke down, Guy Machinery at Skipton lent us a machine and we've been fans ever since – any problems we have had, have been promptly delt with."

But why the S 280? "To run a chipping business of this size we needed a large chipper," explains James Bush. "We did our homework and after a lot of research settled on a Heizo-hack 800 machine from Germany."

With a power requirement around 300 hp depending on material you may think that at 280 hp the S280 is on the edge of its limit, but with its high torque SisuDiesel engine, the chipper's 80 cm (32") maw swallows anything fed it.

"Apart from Valtra reliability we also wanted a reverse drive – TwinTrac – tractor," explains James. "The chipper is fitted with a crane and operating from the reverse drive position is easy and, importantly, very comfort-

**Round wood is stacked to dry for at least 12 months at one of the estate's farms.**



**The Bush Chipping Team at Denton – George Bush (centre) with James Bush (right), Richard Bush (left) and Andrew (seated).**

able – it's brothers Andrew and Richard who are the main operators."

Working flat out the chipper can produce over 25 tonnes of chips per hour with the tractor consuming 30 to 50 litres of fuel in the process. Interestingly, while the chipper can use its on-board crane to self feed from the stock pile the Denton team have designed and built a 'feeding table'. This is loaded from the stock pile using a telehandler and the crane is used simply to keep chipper working to maximum.

Isn't a further man and machine an unnecessary expense?

Not according to George Bush. "The extra output more than compensates for the expense." The chips can be blown direct into store – redundant cow sheds, or loaded into trailers for delivery. These are swap body units which provide customers with a choice: tipping chips into a bulk hopper or dismounting and

parking the loaded body, connecting it to the heating system and departing with an empty body for re-filling

#### **Plenty of room for growth**

Even with customers requiring summer heat its obvious customers, a considerable distance from Ilkley, have appeared on the scene.

Multi unit developments with one central heating point are also growing; one development of 23 houses is heated from just one central boiler and a complex of 30 offices plus a handful of industrial units and houses is another. Each unit is fitted with a heat meter and charged accordingly. For these developments a large accumulator is used for hot water storage. That way there's always plenty when everyone requires an early morning shower, without the use of a massive boiler only being used to its maximum occasionally – a boiler being used to its optimum on a constant basis is much more efficient.

It seems that that diversification into wood chips was the right choice but, the way the business is developing there is still a lot to learn and there's plenty of room for growth.

■ Roger Thomas



# Valtra keep costs in check



**Efficient operation means keeping machinery serviced and operational.**

Founded in 1990, Trade Effluent Services Ltd (TES) is today a successful company with waste disposal contracts from utilities and private companies throughout the North West. The company operates a fleet of 12 trucks, 6 tractors and trailers, spreaders, and treatment plants for hazardous and non-hazardous material. To have grown successfully from scratch into a respected business in this highly regulated arena has required considerable business acumen. Today TES's core business remains sewage sludge disposal with material collected from treatment works and spread on farmland, an operation requiring considerable planning. Operations Director, Richard Piggott explains, "On most arable farms there is small window between harvest and planting when land is available – provided the ground is suitable for machinery. Spreading onto dairy farms' maize ground is a little easier. Cake that has undergone an enhanced treatment is spread onto grassland and vegetable ground but supply is limited to certain works." Seasonal and weather restraints mean land needs to be found, for spreading and storage and TES field staff liaise with farmers over suitable sites. To meet Environment Agency regulations staff also sample soil, "Our responsibility is to find ground and take samples, it is the utility that undertakes testing and gives the OK to spread." Richard explains. They also advise farmers of delivery and inform spreading teams of land availability. With artificial fertiliser easier to spread sewage cake was once considered something of a nuisance. Today spiralling oil costs from which fertilisers are manufactured means cake is more acceptable and when spread at around 10 tonne/acre it typically provides 250 kg of nitrogen – and at the moment it's free. TES is paid under contract by the tonne removed



**TES workshops use Valtra oils and parts.**

from treatment works, so haulage distances are important – up to 8 miles is acceptable although this can get extended to 12 if required, and as a non agricultural operation haulage tractors have to run on white (non-rebated) diesel. Initially TES trialled several tractor makes before trying a used 8150 Valtra in 1994. They liked this machine and today the tractor fleet remains totally Valtra. "Not that Valtra have it all their own way," explains Richard Piggott. "When other manufacturers introduce models that may be suitable we try them out." TES give every machine a fair trial over a week and performance figures studied. "We use around 10,000 litres of white diesel weekly in our vehicles, every driver has a fuel card and tractors refuel at filling stations. "The fuel company then provides consumption and cost data – tractors in litres/hr and trucks miles/gallon. With these figures we can accurately calculate running costs," explains Richard. Currently fleet consists mostly of Valtra T151s with one T160 and a 14,000 hr 8450 kept for special operations. The T151s

operate in both power and eco-modes depending on the job and records show they are returning 11.87 litres/hr while the more powerful T161 consumes an average of 12.69 litres/hr, results considered by TES management to be acceptable. "Certainly better than competition otherwise we would change." All the tractors and trailers operate under O Licence regulations, and once out of warranty servicing is carried out in TES workshops by a qualified mechanic assisted by the driver using Valtra filters, parts and oils. New tractors are written down over three years but usually kept for four by which time they clock up between 8,500 and 9,000 hours. The balance between trade-in valuation and replacement purchase price is covered by AGCO finance which TES find competitive. Records show overall depreciation at around £3.00 per tractor hour excluding tyres. However, a technically acceptable machine is only part of the story; if a driver is not happy his machine may prove 'troublesome', with frequent visits to the workshop. A situation that can lead to avoidable management problems. TES drivers are all happy with their machines, finding the cabs comfortable and easily cleaned and with a ventilation system capable of excluding nasty odours. On the road they are quick and, with air brakes, safe. The Aires front suspension also comes in for praise amongst drivers. On both the financial and operational front Valtra tractors are delivering the goods, consistently fifty two weeks of the year.

■ Roger Thomas



**Richard Piggott discusses the day's work with a driver; All TES tractors operate with O licences, have front suspension and air brakes to the trailer or spreader.**

Old-timer

# BM-Volvo T 800

The increasing size of Swedish farms in the 1960s created a demand for more powerful tractors. Large tractors imported from the USA were beginning to make inroads into the Swedish market, and BM-Volvo wanted a slice of the pie. Accordingly, the company introduced its first six-cylinder tractor in autumn 1966. The tractor was designed from a clean sheet of paper, as the previous T 470 Bison model was outdated, especially in terms of its transmission and hydraulics.

The T 800 was powered by a six-cylinder 5.13-litre Volvo-diesel D 50 with a bore and

stroke of 95.25 x 120 mm. The engine developed 106 SAE horsepower and 97.3 horsepower of PTO horsepower. The torque rating was 336 Nm at 1,400 rpm. In official tests the tractor managed to plough approximately one hectare per hour.

The transmission was completely new. It featured four standard speeds and reverse (4+R), which were doubled to 8+2R with a multiplier gear. Some of the gears were constant mesh, meaning that the gear teeth always touched each other, which made shifting easier. The tractor employed dry encapsulated disc

brakes. The PTO had one or two speeds. Both speeds on the 540/1,000 PTO had their own stub axle.

The hydraulic lifting power was initially 2,000 kilos, but when the export markets – especially France – demanded more power for handling swing ploughs, the lifting power was increased to 2,360 kilos. In Sweden, by comparison, half-towed ploughs were more common, and these required less lifting power. The pulling resistance was felt through the towing arms, as with large tractors in general.

Perhaps the best feature of the new model was the credibility of its appearance, which testified to its power, quality and traditions. Even the Volvo engine was painted in the robust dark green colour of BM. The design was extremely successful, and the same design language was continued with other new models well into the 1970s. The cab was ahead of its time and offered lots of space for the driver. Initially BM-Volvo did not manufacture its own cab for the T 800. Instead it sourced its cabs from the company Hara. Driving the tractor was made easy with power steering.

The model line was expanded in 1969 with the introduction of the turbocharged T 810 and T 814 models. Both of these models were powered by a turbocharged six-cylinder Volvo TD 50 engine. Volvo had introduced the first turbocharged truck engine back in 1954, but the use of turbocharging for tractors was new in Europe. Four-wheel-drive was already common in Europe, but BM-Volvo was the first to combine this feature with a powerful turbocharged engine. The T 810 later featured a Trac Trol powershift, and the engine was switched for a Volvo TD 60.

■ Hannu Niskanen

*The BM-Volvo T 800 weighed 4,900 kg, it had a wheelbase of 2,655 mm, and the tyre size was 18.4-34. Altogether 4,600 units of the T 800 model were manufactured, in addition to 3,550 T 810 and 1,647 T 814 turbocharged tractors, which were introduced in 1969.*



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