

# FINNING NEWS

ISSUE 12

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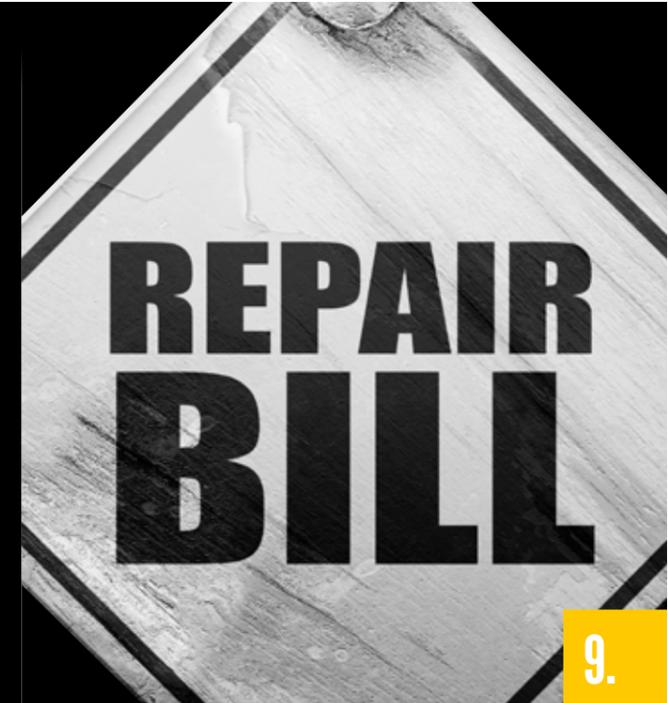
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**“1% is not a lot, but it adds up to a great deal for the aggregates industry”, Mike Phillips, General Manager of the Institute of Quarrying explains in our recent exclusive interview.**

**F**or Mike, who has championed the PRIME Project in a bid to raise standards and professionalism, there are many challenges faced by the industry, particularly at a time when expansion is needed.

Mike: “You only have to look at the recent Government backing for major infrastructure projects like HS2, Hinkley Point C and highways improvements, to see that there will be a much greater demand for aggregates in the coming years.

“These projects might be grabbing the headlines, but the real challenge is how to deliver product to these projects, whilst servicing the growing demand from small to medium sized commercial and housing developments.

“With some predicting the market will increase in 2017, even with the uncertainty of Brexit, the industry has to look at how these volumes can be achieved.

“This is where I believe the 1% factor can play a key role. Put simply, if the industry can make small incremental changes to how it operates, aiming for a 1% improvement in all areas, then this growth will be very achievable.

“However, in order to achieve this, we need to have a greater level of collaboration throughout the industry, particularly with contractors, who themselves have their own pressures. We know from experience through the Quarries National Joint Advisory Committee (QNJAC), that by having a joined up

focus, in this case Health and Safety, real improvements are achievable.

“By including different stakeholders across the industry, from contractors to fixed and mobile plant and areas like road haulage, the work of the QNJAC has led to an increase in training, standards and competence across the sector. So as we look for wider improvements to find the 1%, it will be increasingly important to engage with and educate contractors and house builders.

“A clear opportunity for these organisations is to develop a much better understanding of the information the quarry sector needs, in order to develop its production capacity and capabilities over the longer-term.

# FINDING THE 1%

YOU ONLY HAVE TO LOOK AT THE RECENT GOVERNMENT BACKING FOR MAJOR INFRASTRUCTURE PROJECTS LIKE HS2, HINKLEY POINT C AND HIGHWAYS IMPROVEMENTS, TO SEE THAT THERE WILL BE A MUCH GREATER DEMAND FOR AGGREGATES IN THE COMING YEARS.

“So this is about understanding material types and supply timescales. With HS2 for example, we know we have a potential issue with supplying the high-grade material for the ballast, but looking at the bigger picture, the drain on resources from this project will be significant. The amount of concrete alone used for bridge, tunnel, sleeper and other construction project requirements, will create a spike in demand that could have a considerable impact on other regional projects.

**PUT SIMPLY, IF THE INDUSTRY CAN MAKE SMALL INCREMENTAL CHANGES TO HOW IT OPERATES, AIMING FOR A 1% IMPROVEMENT IN ALL AREAS, THEN THIS GROWTH WILL BE VERY ACHIEVABLE.**

“A good example of where both sectors could benefit is by sharing surveying data, especially from technology like Redbird Drones that can collect data based on a whole site, determining demand over the full timescale of a project. With better visibility of this demand, the impact of these spikes can be managed more effectively. Ramping up production over a manageable period, increasing stockpiles etc is all possible, but the investment needed to do this takes certainty of demand, price, skilled people and equipment.

“Thanks to the very real impact of the PRIME programme and Gold Card operator training in particular, which has raised standards and established a much more professional profile for the minerals extraction industry, it is now becoming easier to attract talent to what was perceived as a very ‘Flintstone’ industry. And through the latest investment in PRIME, and the Skills Wheel, we aim to build on this success, with an ambition to play a role in setting global standards of professional development in the industry.

“In practical terms, the four spokes of the skills wheel are designed to help individuals and operators make informed decisions about investing in relevant industry specific and vocational skills.

“For me, we have already made real progress on the first spoke, ‘Knowledge & Innovation’, and I believe a great deal of the 1% improvement we need to make in the industry relates to how we combine the knowledge of operators, with new in-cab and GPS data driven technologies.

“A recent site visit really showed me the impact qualified and relevant data can have on an operation. I was shown the daily dashboard operators were given access to. It compiled data transmitted by each machine, giving a complete picture of production against target, with other information like average payload, load time and cycle times.

“It was clear by speaking to the operators and managers, this timely information could be used much more effectively to manage the fleet, whilst also looking at the practical impact weather conditions have on the productivity of an operation. By drilling down into this information, the combined team were able to make much more commercially focused decisions about shift and fleet requirements.

With real-time in-cab and remote data reporting already coming into the quarrying sector, I can see the role of the operator being even more important.

This experience in itself also highlighted the importance of one of the more advanced elements of the ‘Skills Wheel’, namely spoke three, ‘Engagement, Influence & Impact’. By having an engaged workforce that has a voice, backed up by real-time data, you can give a team and an individual the opportunity to have proactive ideas for positive change.

“By taking this one step further, centering training and investment on the final spoke of the wheel, ‘Personal Effectiveness’, we can all benefit from an industry full of much more rounded individuals that have the drive to find that 1% at every turn.”



# REBUILD RETROFIT REBOOT

**At its flagship Northfield Quarry, family run business Tillicoultry Quarries (TQ) operates three Cat® 775 Off Highway Trucks to fulfil its growing aggregate and asphalt business.**

With each of the Cat 775 trucks playing an important role in the recent transformation of the business, Finning News caught up with Northfield Quarry Manager, David Strachan to find out more:

David: “It has been a busy time for us at TQ, as we have undergone a major and diverse investment journey, rebuilding our old Cat 775F, whilst embracing the benefits of Cat Minestar™ technology for our two Cat 775Gs, all in less than 12 months.

“The start of the journey was our decision to rebuild, instead of replace, our existing Cat 775F after it had completed 9000 hours. The reason for this was that we knew the machine had been well serviced and compared to the price of a new unit, the financials of a machine rebuild with Finning really stacked up.

“This was especially the case as Finning was able to provide a Cat 777D rental unit to carry out the work of the Cat 775F, for the 5-week period it was at the Glasgow branch being rebuilt. Because Finning had a rebuild option that allowed us to be more specific with the rebuild process, we also opted for a new steel liner for the skip and the replacement of the custom built high spill-boards.





“With a complete refurb of the cab and a three-year warranty on the work carried out, backed by a service and maintenance agreement, we now have a new machine that is performing well and has already done over 1500 hours.

“At the same time as the rebuild was going on, we also took delivery of a new Cat 775G. As part of the purchase of this machine, we opted to use the Cat Minestar™ production monitoring technology.

“This represented the first time we have used technology to actively monitor the performance of a primary hauler unit, so it was all very new to the team. We started with monitoring payload and fuel consumption and soon moved on to look at excavator load counts. It was at this part of the process that we identified some inefficiencies and scheduled operator training to reduce the load time.

We have found the information so useful, that we recently asked Finning to retrofit the technology to our older Cat 775G, allowing us to combine information from both units, which is proving very insightful.

The plan moving forward is to use the real-time monitoring to our advantage and to have weekly metrics reports produced by Finning with KPI's in terms of target payloads, load counts, fuel burn in litres per tonne etc. By sharing this information with the whole team, we will all be able to work together contributing ideas and actions that will help increase efficiency and productivity.

And although the technology is not available on the rebuilt unit, we have used information from the Cat 775G's to support the Cat 775F operator, improving productivity for our overall operation.

With such a large amount of change in approach, we were naturally nervous about the outcomes, but I can honestly say that the whole team has really embraced the technology. As for the rebuild, well I can definitely say that when the hours on our older Cat 775G reach 9000, I won't hesitate to recommend a rebuild to our management team.

**// WITH A COMPLETE REFURB OF THE CAB AND A THREE-YEAR WARRANTY ON THE WORK CARRIED OUT, BACKED BY A SERVICE AND MAINTENANCE AGREEMENT, WE NOW HAVE A NEW MACHINE THAT IS PERFORMING WELL AND HAS ALREADY DONE OVER 1500 HOURS. //**

# FUELLING RELIABILITY

**A**ndrew Bradbury, our Tier 4 engine Product Manager is on a mission to clean up the industry, by highlighting the benefits of low sulphur fuel and the problems encountered with using cheaper fuel.

To find out more, Finning News met with Andrew and some very clogged up components. Andrew: “Businesses and individuals are always looking at reducing their cost per tonne per litre. There are many ways of achieving this, through training, technology and better management, but the one perceived easy win, is cheaper fuel.

“The problem is, cheaper fuel may not meet the required standards. For example, poorer quality fuels can contain water and have particulate and sulphur levels that are much too high. This plays havoc with machine components, across all Tier 4 products on the market.

“Not only do they cause the obvious clogging up of filters, including the important Diesel Particulate Filter (DPF), they can also seriously impair engine performance, lead to advanced component wear and ultimately a machine breakdown.

“The main reason for this is that in order to meet emissions standards, Tier 4 engine components in particular have been engineered with much finer clearances and tolerances, to achieve the higher performance levels required.

“For example, fuel injectors now inject fuel into the engine at much higher pressures, achieving better fuel burn results. This performance is optimised for low sulphur fuel, meaning that when customers are using the correct fuel, the engine performance is at its highest level.

“With high filtration diesel fuel filters used in Caterpillar equipment, when you add in dirty fuel, the filters block much quicker. But the situation becomes even worse if you use a cheap filter with the incorrect micron rating, which would allow particulates to get into injectors. This in-turn would severely impair performance, leading to component wear and failure.

“So in practical terms you get less out of cheaper fuel, so the cost per litre differential narrows. Add to this another common issue of engine oil cross particulate contamination and you can see the continued journey of destruction and cost dirty fuel can take. As we service equipment from a whole range of manufacturers, we can see that poor quality fuel is now one of the top reasons for premature component wear and machine downtime.

“So my message to the industry is simple; don't save the pennies by buying low quality fuel, save the pounds and increase performance by ensuring low sulphur and low particulate is the norm.”



# BESPOKE BOOM

REWRITES HISTORY

**F**or demolition contractors, having the right equipment to tackle daily project challenges is imperative to the safe demolition and processing of waste.

So when Bonnybridge based Central Demolition wanted a larger 50 tonne class Cat® excavator, to support its recently purchased Cat 336F machine, the business had a dilemma, as the Cat 352F didn't come with a straight boom option.

To find out how Central Demolition solved this issue, Finning News recently spoke to MD, Ross Craig about the machine choice and the solution: "Demolition is probably the toughest environment for any machine, but especially so for excavators.



"As a business we therefore have to rely on both the build quality of a machine and its power, in particular its hydraulic power, as the tasks we are asking machines to carry out are varied and challenging.

"Having run Cat machines for some time, we know how good the build quality is and fortunately this is matched by the service support we get from Finning.

"So when I told Oliver, my rep what we ideally wanted, he put me in touch with its custom engineering team at the Finning UK & Ireland Head Office in Cannock, Staffordshire who were able to develop a robust and cost effective solution for us.

"Essentially, the team were able to customise a standard boom, by cutting out the original welds of the goose neck and grafting on a new fabricated straight centre section, using high yield steel.

"From a safety perspective, I think the team went beyond our original expectations. As you would expect, they added typical demolition spec machine components, including reinforced windshield and falling object guards and additional hydraulic component guarding. But for me it was the level of detail undertaken around the boom that was really important.

"Firstly the team hired an independent consultancy to carry out various simulated and physical load testing of the new straight boom configuration, which enabled the new unit to be awarded with a CE marking.

"This then led to the production of a bespoke operations manual, which covers all elements, including its reach and lifting capacity.

"The Cat 352F is already proving its worth, demolishing heavy duty industrial buildings at an old paper mill site in Falkland."

// **HAVING RUN CAT MACHINES FOR SOME TIME, WE KNOW HOW GOOD THE BUILD QUALITY IS AND FORTUNATELY THIS IS MATCHED BY THE SERVICE SUPPORT WE GET FROM FINNING.** //

# TAKING OUT THE TRASH

It's one of those jobs that nobody enjoys, but for waste specialist Amey, taking out the trash is key to processing the 400,000 tonnes of waste produced by households and commercial businesses in Cambridgeshire.

/// The machine is much more fuel efficient than the previous models and moves up to 50% more material in each load ///



When Finning News visited its 450 acre Waterbeach Waste Management Park, we met with Amey transport manager, Simon Davis to discover how its whole process has recently benefitted from a very different type of trash handler, a new Cat® 725C2 retrofitted with a 40m<sup>3</sup> capacity lightweight skip and hydraulic tailgate.

Designed by the custom products team at Finning to move waste that can't be recycled from its main purpose built facilities, to its onsite landfill, the high capacity Cat 725C2 trash hauler has been put to work as a lightweight off road hauling solution to increase the existing Amey fleet. Talking about the solution to Finning News, Simon Davis said: "The waste we receive

into Waterbeach Park comes from both commercial and municipal sources, so we are dealing with general waste, not heavy construction materials.

"Our numerous facilities onsite help us to recycle the majority of the materials we receive, but there is some residual waste that needs to go to landfill. In order to make this

process as efficient and cost effective as possible, when we came to increasing our haulage fleet, we looked at the ideal equipment makeup for the task.

"We wanted a solution that was safe, robust enough to deal with the conditions onsite, high hours of use and large volumes of waste. "So it was clear that we needed to use an

articulated truck for this task, but there wasn't an off-the-shelf solution that met our needs. This is why we spoke to the custom engineering team at Finning, who worked with us to design the Cat 725C2 we now have onsite. Since it has been in operation we have realised the cost and efficiency savings we expected, as the machine is much more fuel efficient than the previous models

and moves up to 50% more material in each load. From a safety perspective, the hydraulic tailgate and automatic skip rollover cover make it much easier to transport and tip waste. For the operator, visibility is much improved with customised mirrors, all round 360° cameras and line of sight down the side of the machine, making it much easier for the load to be tipped in the correct place."

# PUTTING THE HS2 PUZZLE TOGETHER

For the latest in our HS2 series of articles, Finning News recently visited Hawk Group following its purchase of a fleet of six Cat 730 ejector trucks, aimed at servicing the HS2 project and wider infrastructure market.



Well known as a plant hirer and contractor in its own right, we also discovered the very serious investment the business has made into training and up-skilling the industry. Delivering over 5000 courses a year to its own apprentices, customer operatives, site managers and even some of its competitors staff, Hawk has also become a specialist CITB registered training organisation.

When we spoke to Hawk director, Paul Allman at its training facility in Shropshire, we also caught up with the next generation of operators, witnessing Adam completing his test on the popular Cat 313F L GC excavator.

Paul: "HS2 and its legacy is incredibly important to plant hirers and contractors. What we do on earthworks for HS2 and other large schemes like Highways projects and Hinkley Point C, has the potential to reshape a technology driven future for our sector.

"For me HS2 in particular is like a jigsaw puzzle, with a number of pieces that have to come together to realise the full picture or potential of the project. Breaking up the puzzle, I believe you have five key pieces, which themselves can be broken up further.

"These pieces relate to people, experience, technology and equipment, with the biggest central piece being health & safety, as everything needs to support safe working.

"For example, our recent investment decision to purchase a fleet of Cat 730C Ejector Trucks was based primarily on health and safety. It was through our wide industry knowledge and previous experience of using ejectors, that we recognised the opportunity to eliminate the issue of a skip induced truck tipping, one of the most common infrastructure earthmoving incidents onsite.

"At the same time, through retraining our people, we have been able to change the way sites can operate when using these machines. In practical terms, by being able to spread evenly, ejecting at speed and on a slope, there is less need for dozers to be pushing piles dumped by ADTs. So by operating in this way, you can use smaller dozers or reduce the overall dozer fleet onsite.

"Having monitored the performance of the ejector and dozer combination against traditional methods, using telematics technology, we can also see the fuel burn, hours and idle times of the machines. In a recent test, we saw just how much more productive the ejector dozer combination was against the traditional ADT approach. So, what started as a H&S



driven decision, has led to a completely new, more productive solution, that is perfect for projects like HS2.

"I would like to think that through a collaborative approach, as an industry, we could learn from numerous experiences like this to shape best practice and embrace technology.

Certainly HS2 will benefit from other technologies like machine control and factory fitted grade control options, but only if people are adequately trained, will the productivity gains be truly realised.

So in my mind, we need to attract more people into the industry and continue to develop and train the ones we have, paying attention to what is fast becoming a digital construction, BIM driven world that we operate in.



On our visit to Hawk, we met with Max Tucker, a self confessed gamer, and in his trainer's words, a 'hot shot', on the Hawk excavator simulator. Max "I first got to know about Hawk through a labouring job with the business on a project in Wales. Seeing all the kit in action and talking to the operators, I was fortunate enough to find out about the apprenticeship scheme, applied and got a place. Having been a gamer since I was young, it has been really enjoyable learning on the simulator and on the job.

"I recently had the chance to try machine control and have learnt all about grading technologies, which I think will make a big difference onsite. I would definitely encourage more people to join the industry, as it is changing all the time and the career path is definitely there for you."

For the popular Digger Man Blogger, Nick Drew, who joined us at Hawk, the simulator was also an eye opener: "I think its great, it takes a bit of getting used to, but it is very close to the real thing and really gives you a feel for what going onto site will be like. I am definitely old school when it comes to operating machines, but I can see how the next generation and even the older generation can benefit from new technologies, especially if you can learn on a simulator."



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