

Recycling mining machinery

The only O&K RH170 excavator in the UK has been dismantled for parts to be recycled amongst the world's opencast mining sites, writes Steven Vale.

The 350-tonne class O&K RH170 was officially launched in 1995 to fill the gap between the RH120 and RH200 models. The only RH170 to enter service in the UK was the prototype face shovel that was commissioned in April 1995 by A. F. Budge/UK Coal.

After an initial stint at the Llanilid West coal site at Llanharan in South Wales, the big O&K was moved to the Orgreave opencast reclamation project near Rotherham. It then spent a decade at Maidens Hall in Northumberland, until this site was wound down in 2008.

The RH170 was then moved to the adjacent workings at Steadsburn to join a fleet of classic O&K coalers. At the heart of this fleet were a handful of 12cu.m RH120Cs, a newer 15cu.m RH120E and the RH170's bigger brothers, the 22cu.m RH200. In addition, Steadsburn also hosted smaller RH9, RH30 and RH40 O&K models.

Working alongside the sole surviving RH200 at the site, the 20cu.m RH170 loaded dump trucks with overburden, which was then hauled to backfill the void at Maiden's Hall. Sometimes its 20 cube bucket was used to fill the huge skips of Cat 789 haulers, but as a rule it was generally matched to the mine's seven 150t capacity 785s, filling one in just four or five cycles.

The cessation of coaling at Steadsburn heralded the end of the road for the last RH200 at UK Coal and, after 16 years and 43,000 hours of service, in September 2011 the only RH170 in the UK was also stood down. There was a hint of a possible move to another surface coal mine at nearby Butterwell, but for the next 18 months the redundant excavator remained on site at Steadsburn while UK Coal decided its fate.

The decision was a tough one as it would have cost a small fortune to move the RH170. However, the restricted nature of the current workings at this site was deemed not suitable for RH170/RH200 sized excavators feeding large Cat 785/789 haulers. Noise considerations were also an issue, as smaller Cat 777 haulers are quieter than their larger counterparts. In addition, UK Coal still has a large fleet of working RH120s – an ideal match for a 777 – and it was therefore decided to deploy five of these prime movers to Butterwell.

In the summer of 2013 the RH170 was quietly dismantled and the super-sized components were collected by EP Industries and trucked to its base at Alfreton in Derbyshire.

SECOND LIFE PARTS

In the construction sector, EP Industries is best known as the Hyundai dealer for Yorkshire, Derbyshire, Nottinghamshire and Lincolnshire. However, over the last couple of decades the firm has developed an international reputation for buying, selling, dismantling and reconditioning massive mining machinery.

Commissioned in April 1995, the O&K RH170 face shovel was the prototype machine and is the only example ever to work in the UK.





Above (Two Pictures) and Left: The 350-tonne class RH170 face shovel was split into eight loads for the journey to EP Industries.



Editor's comments

For decades Britain's open cast coal mines have been dominated by RH120-size excavators three- or four-pass loading 100 (short) ton capacity haulers (usually Cat 777s).

There are some notable exceptions, but this pattern of machine use is likely to continue. Anything larger really needs a double shift to pay back the increased capital expenditure, while permits for night-time working are now virtually impossible to obtain.

In addition, planning permissions are generally in the five- to seven- year range, which is simply not long enough to justify the investment in larger prime movers to drive down the cost per tonne of extracting and hauling overburden.

With O&K going through the hands of Terex, Bucyrus and now with Caterpillar, the likelihood of seeing a new Cat 6040 (RH170) or a 6050 (RH200) in the UK is therefore remote. The largest unit from this highly successful family of mining machines currently at work in the UK is the Terex RH200 owned by Banks Mining.

The 20cu.m bucket on the RH170 was occasionally matched with Cat 789s, but worked best with four- or five-pass loading of smaller 785s.

Managing director Eddie Pilsworth has certainly come a long way since he completed a five-year apprenticeship with Dyggor-Gaylord as a plant fitter. His first step up the ladder was a promotion to a foreman fitter at the Blackwell opencast coal mine in Derbyshire. When the owners of Dyggor-Gaylord bought Simms Sons & Cooke, Eddie had the opportunity to cut his teeth on large excavators with five P&H 1200s to look after.

In 1986 he decided to strike out on his own. With just £1000 in his pocket, £600 of which was spent on a pick-up truck, he began as a self-employed fitter in the heart of the English coal fields. Fast forward to 2002, and EP Industries had grown to such an extent that the operation moved to a six-acre site at Alfreton and currently employs 25 staff.

As you would expect, over the years Eddie's team has dealt with a number of Demag excavators, including three H185s. More recently they handled the only H255 in Belgium, which was stripped down and sold to a Russian Komatsu dealer. The team has also reconditioned the pumps, cylinders and motors for a H485, initially for the Rough Castle mine in Scotland, but believed to have been sold on to Syncrude in Canada.

Even larger machines have also passed through the business, including RB-110 and RB-150 electric rope shovels from the Stewartby brick works in Bedfordshire, in addition to Bucyrus-Erie 1260 draglines. The most famous of these draglines was the Chevington Collier, a 1975 machine fitted with a 32cu.m bucket, which UK Coal took out of service in 2004.





Hydraulic cylinders from RH Series excavators are much sought after. These fast-moving parts will be fully reconditioned before going on sale.

Back in the good old days of British Coal, when there used to be as many as a couple of dozen contractors working the pits, it is believed there were around 500 examples of the benchmark Cat 777 haulers in the UK. It is therefore not surprising that EP Industries has built up a wealth of knowledge of these dump trucks, from B to F Series.

All very well and good, but the sprawling site at Alfreton is dominated by O&K RH Series excavators and components. Eddie admits he would love to get his hands on an RH400, but so far an electrically-driven RH200 is the biggest O&K excavator he has ever had. It was bought three years ago from Anglo American and completely stripped. The bucket was sold to Papua New Guinea, while the final drives were sent to the US. Some of the parts came to the UK and a few of the cylinders ended up with Banks Mining.

The yard is currently home to numerous RH8s and RH9s, plus a number of ex-UK Coal RH30s and RH40s from the C, D and E Series. There is even an RH30F from Zimbabwe. They have also handled a pair of RH90Cs, most of the parts from which were sold to a customer in Russia.

At one time there were many dozens of RH120 excavators at work in the UK, including the world's largest concentration of C Series models, of which over at 80 units were at work. No wonder that the UK is both a source of RH120s and also has a steady demand for RH120 parts to keep the remaining machines earning their living.

It is therefore no surprise that EP Industries has bought ten of them over the years, four from South Africa and half-a-dozen from the UK. Their latest acquisitions include a C Series machine from Nant Helen in Wales and an RH120E from the House of Water coal mine in Scotland.

Buying and selling used RH excavators can be a strange business. Eddie recalls buying an RH120C a few years back from the Bardon Hill quarry in Leicestershire. It was on his books for two years without any serious interest. As soon as he decided to break it for parts everything was sold within just two months.

Whereas an RH120 normally breaks into six loads, the RH170 took eight vehicles to shift it. The bucket and stick travelled as a single load, as did each of the 50-tonne tracks.

Another vehicle was needed for the 36t main boom, and the 27t counterweight and oil cooler made

yet another load. Three vehicles carried the 35t engine module, the 43t superstructure and the 29t undercarriage frame.

At Alfreton the components were unloaded by one of two cranes, a Sennebogen 640 and an older NCK Rapier Ando C41B. The NCK itself could soon be axed for a newer and more powerful version.

O&K parts are popular throughout the world and Eddie is confident of recycling the components from his RH170. It is estimated that around 100 examples are still at work and Eddie expects the parts that are expensive to replace, such as the final drives, swing-drive gearboxes and hydraulic cylinders, to move quickly.

These components have now been reconditioned by EP Industries and at the time of our visit the team was about to make a start on the track frames and idlers. The 20cu.m bucket has also been repaired and painted and is ready to go. The rest will be reconditioned and sold over time.

Eddie said, "There is no part we cannot recondition and we stand by everything we sell."

The components of the only RH170 in Britain are still in the country, but it is just a matter of time before its presence is relegated to the history books.



The rest of the RH170 (serial number 77071) waits patiently for a bit of tender loving care, the tracks being next in line for a full renovation.