Working for AMC

In their factory at Plumstead, Associated Motor Cycles made AJS and Matchless machines and, from 1963, Nortons. In this article Brian Stark gives a vivid picture of conditions and methods at the plant.

It was almost inevitable that I would end up working at Colliers, as Associated Motor Cycles used to be known in the south-east London area. Along with all the other kids in my neighbourhood, I was crazy about motorcycles, and would obtain old copies of the green 'un or blue 'un and pore over the racing results. This usually ended in an argument over the merits of AJS, Norton and Velocette racers.

It didn't help that one of the ACM testers lived opposite our school and would arrive home for lunch every day in the latest model with, at the most, three miles on the odometer. I wonder how many readers have actually seen a new motorcycle – no, not one made in Japan six months ago, but a spanking new one that ticks and pings when the engine is shut off, smells of solvent, cutting fluid and fresh rubber, and sparkles with deep, shiny enamel and chrome.

Design-wise, AMC bikes may have been long in the tooth, but their finish was second to none. Well, after teenage exploits and a spell in the National Service, I ended up at the employment office of the AMC works in 1958, hoping for at least a sweeping job. But after a brief interview that revealed I had precious little experience except in twisting a throttle, who should walk in but Hugh Viney, the trials ace of his day, and one of my heroes. I will always remember his penetrating steel gaze and the phrase he muttered through that famous pipe in his mouth: 'So you want to ride motorbikes, do you?'

My first job, creating the de luxe models, was not as exciting as it sounds. I had thoughts of installing wild cams and megaphone exhausts, but my hopes were dashed when I was handed a big box of brake lamp switches and tail lamps, and another box of pillow footstools. Crazy as it seems, the procedure went like this:

After being road tested and cleaned, a completed bike would be pushed across the street to the packing shop in the new building, where the non-export machines would be saddled with pressboard panels and yards and yards of corrugated paper and hairy string. The only unboxed parts were the lower halves of the wheels and tyres, so that a bike could be wheeled around for delivery by rail to the dealer who had purchased it.

I would then have to push a machine all the way back, wait for the lift and go to the third floor (fourth in American parlance) and into the factory, where I had a little 'cage' to work in. The factory levels were divided into work areas by expanded steel panels extending from floor to ceiling, and giving some measure of security.

Once I had the bike on the stand, the string and cardboard would come off, pillion seats were bolted on, the stop-knob switch and wiring installed and the tail-lamp changed. Presto, a de luxe edition – all for the heady price of 175 6d (87p) over the original cost of the bike. This was my first insight to the incredible use of labour at AMC – material was expensive, people cheap.

Colliers made the majority of their parts in-house, unlike many other manufacturers who merely bolted together finished components made locally. The exceptions were the ferrous castings: cylinders and cranks came from Ercal in Birmingham, and the alloy castings – heads, hubs, cases – from Stones of Deford.

The old factory was an early example of pre-cast concrete construction, and pieces had been added on over the years until there was no room for expansion. It was incredibly crowded, with every inch of space used for something or other. Even the landings by the stairway would have a man working at a bench, checking new castings or welding various components.

The building was four storeys high, and the roof was also utilized for the welding and cable shops and storage of incomplete machines. Components were moved from floor to floor via a couple of small lifts, and from station to station by little old men in work suits and flat caps. Often one would kneel over and die on the job, so they just loaded him on his hardcoat and wheeled him away.

Apart from the assembly, engine and gearbox shops, the factory was a dungeon. All the windows were protected by wire mesh, and still had the paint from the World War Two blackout over them, so it was very dim in the machine shops.

The polishing shop was pitch-black, with rows of big electric motors running the grinding and felt wheels. A rough casting had to be cleaned up with a coarse emery wheel before polishing, and that produced a lot of metal dust. Each polisher had a naked light bulb over each wheel and a crude dust extractor that exhausted on the roof to pollute the neighbourhood. The younger men would wear a dust mask, but the old workers just inhaled the stuff and would spit occasionally to get rid of the grit.

Parts came and went all day in a seemingly endless stream. For instance, the petrol tanks were pressed out in two halves on the ground floor, loaded on a hardcoat and trundled through the maze of machinery to the lift, and up to the third floor to be trimmed. From there they would go to the roof for welding and bendering, down to the first floor for painting and stripping, and up to the second floor assembly shop to receive the caps, tips and panels or knee-grips. Finally they would be installed on a bike or taken across the street to the spares department.

All new bikes were road tested for at least 12 miles. This was carried out in all weather, which was often wet and occasionally snowy. If the bike was acceptable – and it usually was – it was cleaned, the decals stuck on, and the machine was moved across the street to the packing shop. If it was an Export model the front wheel, controls,}

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Classic Bike
The front of the AMC factory in Plumstead Road, Woolwich, after its closure in 1969

Left: 350cc Matchless trials models are produced in the competition shop in 1959

Below: 'the factory was a dungeon': petrol tanks are nickelled in the plating shop

footrests, and other parts were removed, and the disassembled bike crated up – another example of wasted effort.

Present-day owners of AMC machines are very proud of the fine original enamel finishes on their bikes, while others strive to achieve such an appearance on restored machines. The problem is that they don't use the correct method. Have you ever noticed the little enamel 'drips' on the rear edge of a petrol tank or mudguard? That indicates where the part was dipped in a bath of paint and hung on a conveyor belt to go through the ovens. At one time three coats of stoving were applied, but this was later reduced to two. The frames were about the only pieces that were sprayed by conventional methods.

I was always fascinated to see the blue or red tanks for twin-cylinder machines being painted. Imagine two men down on their knees over an old bathtub full of blue paint, one of them holding a new tank by putting his fingers down the filler cap hole. The other would then use an old saucepan as a ladle, scooping up the paint and deftly pouring it over the surface. As I said, check the back of that old tank for enamel runs...
The majority of machine tools in the factory were extremely worn out, or just quaint. The Norton oil pump test rig was an incredible device, consisting of a row of drill presses that spun the pumps, which were fed with oil. The operator would run something like ten pumps at once, and rush back and forth, checking them for binding; naturally there was oil everywhere. AMC soon deemed this unnecessary, but when the untested pumps were fitted to engines, the friction was so great that the pump was driven off the crank would strip.

The frame shop was another place to witness turn-of-the-century methods. The frames actually consisted of a mass of small forged lugs with a few pieces of tubing between them. The steel head forging – no light piece on the duplex-frame jobs – would be sandblasted to remove rust and scale.

One of the countless old men would clean out the bores in the lug for the frame tubes with a file, and install the tubes, which were coated quite heavily with pink flux. Small holes were drilled – amazingly, the drills were powered, by air as a matter of fact – and a locating pin was driven in.

Next, the head lug and tubes were taken to a corner of the shop, where a stack of bricks formed a hearth for brazing the components together. Using a gas torch held in a stand, an operator heated the forging to a bright cherry red and, with a long stick of brass, the tubes were securely brazed in. After cooling off in a corner, the assembly was sandblasted again to remove the flux, and the little old man attacked it with a file to remove any excess brass around the joint and make the locating pin smooth.

Then he installed the top frame tube, and the whole process started all over again until the front frame loop was complete, with lugs for everything brazed and pinned in place. Finally, he would start on the rear loop. Now you can understand the comparative simplicity and ease of manufacture of the all-welded Featherbed and Commando frames...

Peter, an immaculate little man wearing the inevitable brown coat, had a tiny shop on the roof of the factory with a fine view of the River Thames and countless chimney stacks. Peter was the cable man, producing every control cable for production and spares. When I wanted a cable made for an ISDT bike I would go up on the roof, give him the measurements and watch him make a perfect cable in seconds.

He used special punches to form a bail at the extremity of the inner wire, and would deftly dip the end of the cable with the nipple into a pot of flux, then into a pot of molten solder and back into the flux again. He would do this with lightning dexterity, giving the cable a little flick to remove any excess solder. His final test was to coil up the cable and pull and push the inner wire to check for free movement.

'That will give no trouble in your Six Days,' was his final word, and we never did break a cable in those events.

He assembly shop was not without its alternative uses. It was a place where you could get your shoes repaired, tickets for any London show, condoms, tobacco, and sage advice on the care of chrysanthemums. When a group of dealers was expected from America, the machines were kept on the assembly line until the word was given that the party was approaching, whereupon the management would proudly show them how the line could produce a completed machine every 20 seconds or so!

Currency in the factory was, in my case, a half-ounce of tobacco, as the majority of workers smoked, and rolled their own. If I wanted something that I had fabricated for my scrambles bike painted or chromed, a packet of Golden Virginia would open any door.

Although boredom was obviously

Left: Jack (left) and his father Bert Collier became institutions at AMC for their riding and mechanical abilities.

Left: Every inch of space was used. AIS twins get the finishing touch.

Classic Bike
Show-offs

The time and effort spent in preparing the Earls Court Show models was quite incredible. Work would start on them about three months before the show, with usually three men taken out of the engine shop and given a separate area to assemble two virtually identical ranges of bikes, one wearing AJB badges and the other carrying Matchless emblems. Sets of castings for the engines, gearboxes, primary cases, hubs and other parts would be examined for cosmetic blemishes, until a complete perfect set was found. The castings would be boiled and screwed together with no internals, and their surfaces hand finished with files and emery cloths until they were totally smooth, with all the joints made flush.

Then, after disassembly, the castings were carefully sandblasted and acid-dipped to give the alloy that special "white" finish. Covers were polished to a brilliant shine and assembled with stock internals, but without oil. The carburettors and magnetos were also special show jobs, with deep paint and chrome-plated screws.

The cycle parts went through the same treatment, receiving the top coat of stone chum without the flawless chrome plating and careful assembly. The primary chain was replaced with that of an ordinary bike.

Labourers who were working in a ditch.

The first big twin passing them at the same time as the two-wheeler, its rider had been tended downstairs...
Working for AMC

Pretty: 650cc AJS 31CSR in 1962 form

The competition shop built all the trials and scrambles bikes, including the Scottish Six Days and ISDT machines. Contrary to general belief, we did not have the run of the factory's facilities, as production requirements enjoyed first priority. We had very few power tools – a drill press and the occasional use of a lathe, but no welding equipment. Everything was therefore done by hand, with a hacksaw and file.

For a long time the sales department dictated how the bikes should look, and it virtually took an Act of Parliament before we were allowed to angle the rear shock absorbers and make a lighter, stiffer subframe. A good 500cc pushrod single would produce 42hp at the crank, using a 1½in Amal GP carburettor. Occasionally we would run a 600 TCS version if a track had deep sand or was very muddy, as this motor gave a lot more mid-range power than the 500, but was not as fast at the top end.

Before Vic Eastwood joined us as a motocross rider in the early sixties, and work started on a lightweight 500 which finally evolved into the GSSCS, our scramblers were pigs to handle. All the good riders at that time seemed to be farmers with arms the size of thighs!

We would test a rebuilt works scrambles bike on the slopes of Shooters Hill, using an old rutted track known as the Red Road. Being young and stupid, I once headed for the Red Road on Dave Curtis's new bike with visions of world championships in my mind. I had been competing regularly on my Mabsa – a works 500cc Matchless engine in a BSA Gold Star chassis – and thought I was hot stuff.

I had not fitted a silencer as I wanted to see how much power Dave's machine really had, but after I got into third gear and leaped over a hump down the hill, the machine started to hop from side to side. I snicked into top gear and wound it on a bit, which helped until the

Hugh Vincey, who employed Stark, was one of the factory's top trials riders. His humorous introduction to the job of fitting 168 tyres and tubes in a day was to mention that Stark needed some Six Days experience...

Tyred man

Too rough: mighty 750cc Norton Atlas in 1964 chopping began again. Before terror set in, I remembered the expert's words of advice: 'If she tries to swap ends, just give her some more.' My problem was that I didn't have any more throttle to give!

I vaguely recall seeing the old man in the adjacent allotment gardens drop their forks in disbelief as I roared by, with skinny legs flapping and eyes bulging. With a lot of rear brake and prayers I managed to stop the beast, and collapsed on the ground with my legs shaking like jelly. My ride back to the factory was very sedate, and I had a great deal of respect for the big men of four-stroke motocross from then on.

I think the best all-round bike that Plumstead made was the Norton 650SS Manxman. The 500cc Dominator was smooth but very overweight, and the 750cc Atlas just too rough. Their prettiest bikes had to be the 650cc AJS Model 31 Matchless G12 twins in CS or CSR sports form, resplendent in polished alloy and chrome, and red or blue paint.

I eventually left AMC in about 1965 when the business was in severe decline. They had been good days, with good workers, but the tools we worked with were old and the management just plain bad!

Nobbled!

The most modern part of the factory was the gearbox shop, ably run by one 'Nobby' Clark. Nobby was a resourceful bloke, who managed to build a very nice five-speed box from existing parts. After making quite a few 'on the side' and ensuring that they were reliable, he proudly approached the management with his creation.

His reward was to be curtly reminded that their bike didn't need five ratios, and they had designers to do that kind of work anyway!