

# BSA - The Glory Years and Beyond

by a former DAM member who worked for BSA

Back in 1861, 14 Birmingham Gunsmiths formed a company in order to pool their resources and win more and larger orders from the British and overseas governments, and so Birmingham Small Arms (BSA) came into being together with the soon to become world famous piled rifles emblem, and in 1863 a large factory was built at Armoury Road, Small Heath. During the late 19th century orders for armaments dropped and so the gunsmiths turned to bicycle manufacture and in 1903 they produced their first motorized tricycle, motorbikes followed quickly afterwards. At it's height BSA owned 67 companies and employed 28,000 people producing not only motorbikes and guns but also machine tools, earth diggers and Daimler cars to mention but a few. The whole of the BSA Empire was firmly based on engineering with the most profitable parts being BSA, Triumph and Ariel motorbikes. BSA's slogan of the thirties through to the late fifties of being "The World's Most Popular Motorcycle," was no idle boast. So what happened?

My apprenticeship at the Lucas Group Research Centre was terminated by redundancy, so I not only needed a job but also a firm that would take on my indentures, not easy even during the full employment times of the sixties. Even back then I loved motorbikes and asked an aunt, who worked at the BSA, to find out the name of the Laboratory Manager. I telephoned Stuart Abercrombie and managed to convince him that his lab needed me, a short interview followed and two weeks later, at 8.30am on a Monday morning I started my dream job working in one of the world's largest motorcycle factories. Only two years before Jeff Smith had bought the Moto Cross World Championship home to Small Heath, and John Banks was trying his best to do the same. My aunt worked at the factory, my grandmother had done so during the Second World War and there were many other families who had generations who had or did work at the factory, one of my friends, another apprentice, was the fifth generation of his family to do so. Amongst many of the work force there was a great pride in the factory and the exciting products. On a Monday morning after the factory team had been racing somewhere in the world there would be a crowd of workers who had come in early to read the telexes on the notice boards. To say that I was proud to be a part of this would be an understatement.

However, the work for a young lab tech was rather mundane, case and core hardness tests, casting checks for flow and stress, all the usual tasks of a metallurgy lab. My break came with the B25 250cc engine developed from the C15. The B25 had an alloy con-rod, the same one was to be used in the 3 cylinder engines, but there had been some con-rod breakages in the B25 and the investigation landed on my lab top. I stress and crack tested them, cut them in half to look at the structure, swotted reference books to check the material was correct to no avail. My boss pushed for an answer, in desperation I said that I thought it was the finish, they were polished, and that they should be shot peened to spread any stress loadings, and it worked! Problem solved and a pat on the back. My reward was a loan bike, a B25SS Street Scrambler with the oil in the frame, these bikes were not sold on the home market at the time as all production was going to the States, this earned me lots of bunny points with my mates. Truth be told, the first bike I was lent was a development B40 350cc single, this was to get me to college while my own bike, a B44 was off the road. Off I went to Development to pick up the bike and there was this sad and dirty B40 leaning against a wall. A fitter in there told me I would have to check it over myself and if it needed oil it was under the bench, it needed over a pint of oil to bring it up to the mark, and away I went. A couple days later development wanted the bike back to check it over, I had washed and polished it by this time as well as putting over 400 miles on the clock, well you know me! An hour or so later I was called to the workshop and asked what on earth I had put in the oil tank, "That oil," I replied, pointing at the anonymous white can, there were several seconds of silence followed by howls of laughter, the can did not contain oil but Teepol, an oily looking industrial cleaner made by Shell. Imagine my amazement when later in the day I was given the keys to the B25! The B40 was called the Teepol Special until the end of its days and I had to endure the

mickey taking for the years until saved by redundancy, though I have to admit that I wish I was still there to be the butt of the leg pulling.

In 1967 BSA opened its new R&D facility at Umberslade Hall, near Tanworth-in-Arden, staffed with bright young things fresh from university or recruited from the car and aircraft industries - no motorcycle engineers then? Nope! Umberslade Hall was known through out the BSA/Triumph Empire as Slumberglade Hall or Marmalade Hall; we Techs called it Mecca, even to the faces of the rare visitors from that, to us, strange place. Oh how they puffed and preened with pride when we called them visitors from Mecca that is until one of them asked why, "Because you mecca balls up of everything" was the terse reply. The place employed 300 staff and cost 1.5 million a year, in 1967! Soon after that the BSA and Triumph Triples went into production; this was now getting really exciting. So was my own job.

America took such a large part of BSA/Triumph's production that it was they and not the factories that dictated what went into the sales brochures, and the three cylinder models were a good example of this. At Small Heath work had been progressing well on the new A70 twin, this was to be a long stroke 750cc twin only loosely based on the A65 650cc engine. Although looking very similar the only common parts were the outer cases, the A70 engine was far more robust in every way in order for any future power development to take place. At the factory this was thought to be a very important engine, a smooth engine with lots of torque and the potential for further development, an engine to take the Group through until the Bert Hopwood designed E35 dohc engine and it's larger multi-cylinder derivatives came on line. However, the Americans were having great success racing the short stoke, high revving A65 and had no interest in a long stroke 750, but they had heard of the Hopwood/Hele developed 750cc three-cylinder engine and wanted that. This was not too much of a problem for the factory as the engine was almost ready for production and had been for some time, there were good reasons why this engine was not being used; it was thought that the engine was too complex and expensive to produce, also the result would be a very heavy bike. On top of this the factory wanted to save the money for the modular E35 engine range that was still a few years away. The American market called the tune in those days and the Triples were got ready for production although it was not that easy. America also wanted the BSA and Triumph Triples to have individual looks, the Triumph engine to be vertical and the BSA's to have its cylinders canted forward by 15 degrees, and so an already expensive engine - it's seven crankcase castings now becoming fourteen due to the 15 degree requirement - became even more expensive. The differences in the engines also meant that different frames had to be used, all the engines were built at Small Heath in relatively small batches and it is hard to imagine that the BSA Rocket 3 or the Triumph Trident ever made any profit for the group; this is without taking into consideration the \$1,000,000 that was later spent on racing the bikes, albeit to success around the world.

Still working in the metallurgy lab I became the warranty control tech. Dealers around the world had to fill out a card to claim their payment for warranty work, some poor clerk had to tabulate these cards (no computers then) into problem areas, if the fault was thought to be metallurgy related then it came to me to investigate. This was a job that I loved, so much so that it seemed to me that every day bought something new and interesting also, I got to ride lots of bikes! This always seemed to be 175cc Bantams when the sun shone and the 650 and 750 ranges in the fog snow and rain! I didn't mind as my job took me to every department in the factory, although this could sometimes be like traveling in a time machine; I well remember a visit to a lathe shop, rows and rows of lathes all driven via leather belts from spinning shafts in the roof. In turn these shafts were driven by a large electric motor around which could still be seen the foot-print of the steam engine that had proceeded it, and so the sixty year old lathes span into the seventies trying their best to compete with more modern factories on the other side of the world which were already using CNC technology. In another part of the factory ladies sat in rows painting white or gold lining on mudguards and petrol tanks. My own 650cc Thunderbolt still proudly wears its hand-painted gold-lined tank 33 years on; those forgotten ladies did their work well. To go to the forge, casting area or polishing shops was like visiting the world of George

Orwell's 1984. It has to be said that opposite my lab was Export Packing where bikes were being shipped to over 120 countries so it could not be all bad, could it?

August 1970 and the new assembly lines went live, these lines were state of the art and made Small Heath the most advanced motorcycle production facility in Europe and among the best in the world. Unfortunately the new Oil In Frame (oif) models went into full production at the same time, this proved to be too much for the factory to cope with, 13 new models and a new production line - guess what happened! Disaster, that's what. When production started after the summers break the BSA 650's new frame was found to be too tall and the Triumph engines would not fit! I expect that by now you understand why the Umberslade facility was called Mecca! 1200 drawing room changes saw the new frame fit for production, unfortunately this meant that both BSA and Triumph factories missed getting bikes into the American showrooms in time for the 1971 selling season. However, optimism was still high on the shop floor; the race team was winning everywhere and there were new and exciting machines waiting to go into production.

Work was progressing on the all-new E35, a 350cc double overhead cam twin fitted in a frame based on the Rob North one used on the racing triples. The bike had electric start, indicators, 34bhp and could top 110mph with handling to match, it was to be called the BSA Fury and Triumph Bandit, this was unfortunate as the names sound better the other way around. Another pair of bikes waiting in the wings; an 85bhp triple based on the Daytona winning bikes complete with Rob North frames, five speed gearbox and letter-box fairing (the letter-box was to direct air to the oil cooler), and a 1000cc four cylinder bike based on the three cylinder 750 which was itself based on the 500cc twin cylinder Triumph. Sad to say money was not spent on these projects (excepting the fortune lavished on publicity for the ill-fated E35), rather it was spent producing the awful Ariel 3, a moped with three wheels and a banking frame. The factory was geared up to produce thousands of these things per year; stars from TV and films were hired to publicize the machine in TV and magazine commercials but it still did not sell, and nearly all those that did sell came back for warranty claims costing the company a fortune.

By mid 1972 the factory was facing an £8,000,000 trading loss, a far cry from the heady days of the fifties and sixties. None of this bothered staff too much; rather it was annoying that management could be so wrong. Remember that we were working in one of the world's largest motorcycle factories, a factory with a history going back over 100 years, new models were waiting in the wings and design-room staff were already working on 4 and even 5 cylinder derivatives of the E35, what could go wrong? The E35 project that was to have been the group's new, modular and therefore profitable future ground to a halt, the money having been miss-spent elsewhere.

BSA ran out of credit, all it's eggs firmly based in engineering the Group was unable to cope with the rising competition from the East, so one morning in November 1972 I clocked on at 8.30am to a strangely quiet factory, the assembly lines had stopped and one and a half hours later I had left my company bike with the receiver and was stood at a bus stop with £180 severance pay in my pocket and no job.

The factory continued for a while with A skeleton staff producing Triples but it was demolished in 1977 to make way for a supermarket. A factory that endured two world wars, once exported over 80% of it's production, won world championships and the Queen's Award to Industry, was gone forever.

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