

North Birmingham News

NEWSLETTER

Severn valley Run



What glorious start to the day, which made a pleasant change from the conditions experienced on our runs of late. Start venue was at Tony's Diner at Quatford and as usual mine host Tony made us very welcome.

Signing on always amuses me as I like to see which manufacturer dominates the entry list. Well today was a titantic struggle which resulted in dead heat of 7 Triumphs, 6 twins and Martyn Griffith's immaculate ex-RAF single and 7 BSA's of twins and singles of various capacities. These were followed by a brace of immaculate Velo's, a pair of Ariel twins, a couple of equally desirable Norton Dominators and the support act of Messrs Bull and Danks on a Sunbeam and Royal Enfield respectively. As appropriate for the Severn Valley 40's weekend we had a WD presence with Jonathan Jinks M20 BSA, Martyn Griffith's 3HW 350 Triumph and my commandeered 350 Royal Enfield

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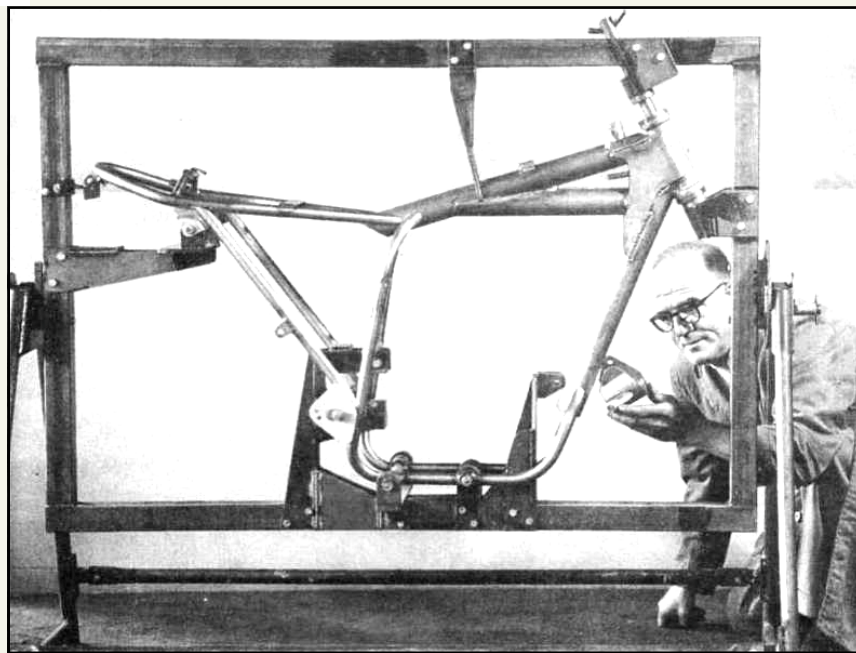
Frames Of Mind

Once Henry Ford's model T had pointed the way by halving the price of a motor car at a blow, the rest of the manufacturing world could not afford to ignore the implications of mass production. Motorcycle factories were slower than most to adopt the new techniques, with the result that, especially in America, the price of motorcycles relative to that of cars actually increased significantly over the next two decades.

This was not because of stupidity or complacency, but because most motorcycle designers could not see a ready alternative to the traditional, highly labour-intensive method of building frames by heart-brazing – a technique that dated back to the safety bicycle craze of the 1890s. Factories would buy steel tube, and, from specialist suppliers, the various malleable iron 'lugs' needed. The tubes would be bent to shape, checked against a template, and the tubes and lugs loosely assembled on a sturdy jig. Then the lugs and tubes were drilled, and locating pins resembling small nails were hammered home.

The frame was then removed from the jig, upon which another one could be immediately erected, and passed to the brazing hearth. This consisted of a bed of coke. The brazing was done with a blowtorch using gas, plus air supplied from a set of bellows.

The lugs were heated in turn – the coke serving to distribute the heat evenly – and first borax flux and then brass was neatly melted into the interstices between the tube and its lug by a sort of capillary action.



In this fashion perhaps 20 or 25 joints had to be brazed. Very time consuming. The prices did have advantages, however. It called for minimal investment and no very great skill, and at a time when cheap labour was readily available it was employed by such giants as BSA and the dozens of tiny firms making half a dozen bikes a week.

Not that everybody was complacent about heart-brazing. Advances in gas welding during the First World War led to a spate of patents on welded frames. Few of them – a notable exception was the ABC Skootamota – reached production.

One bright idea that did, and sold in considerable numbers, was Francis-Barnett's clever



Top: jig fixtures for an all welded tubular frame in this case the high-tech titanium alloy design built for motorcross by BSA

Above: traditional hearth brazing is still part of repairing lugged motorcycle frames today

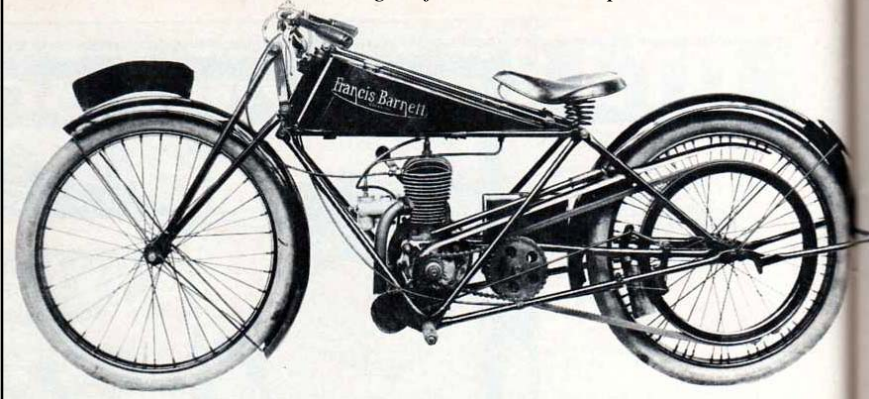
frame advertised as being 'Built Like A Bridge'. It made its debut in 1923, and consisted of 14 or so pieces of straight steel tube, with the ends flattened and drilled. These were bolted to the steering head, engine and gearbox mountings and various other frame components. Everything was made to size, no heat was involved, and if the frame itself was cheap to make, assembly was even cheaper.

With the parts laid out before him, a skilled man with a couple of spanners could literally build a frame in a matter of minutes! He did not even need a jig. Of course, such a construction was only really suitable for a lightweight machine. Over the years the bolt-holes fretted and elongated so that no matter how hard the bolts were tightened, the frame lost much of rigidity. But even so, this design lasted well into the 1930s.

After the Second World War, interest revived in the welded frames, and one of the earliest examples was fitted to the BSA Bantam. But the frame that perhaps set the trend for lugless all-welded construction – if only because it received such wide publicity – was Norton's Featherbed.

Such a frame saved the cost and weight of the heavy malleable iron lugs. If a minor alteration was called for, only an equally minor alternation to the jig was needed.

Francis Barnett "Built like a bridge" frame at its inception in 1923



But it was probably, depending upon the design, even more labour intensive than heat brazing! Ken Sprayson, who 'productionised' the Norton frame when he worked at the Reynolds Tube company and who still supervises production of the Featherbed frame on the original jigs at BSA Motorcycles, recently estimated that to produce a frame to racing standard takes nearly 20 hours.

Arc-welding – and especially inert-gas protected welding (at the correct temperature) – is slightly quicker than bronze welding and none the worse. But in the 60s and early 70s some of the poorly executed arc welding on Japanese frames had to be seen to be believed.

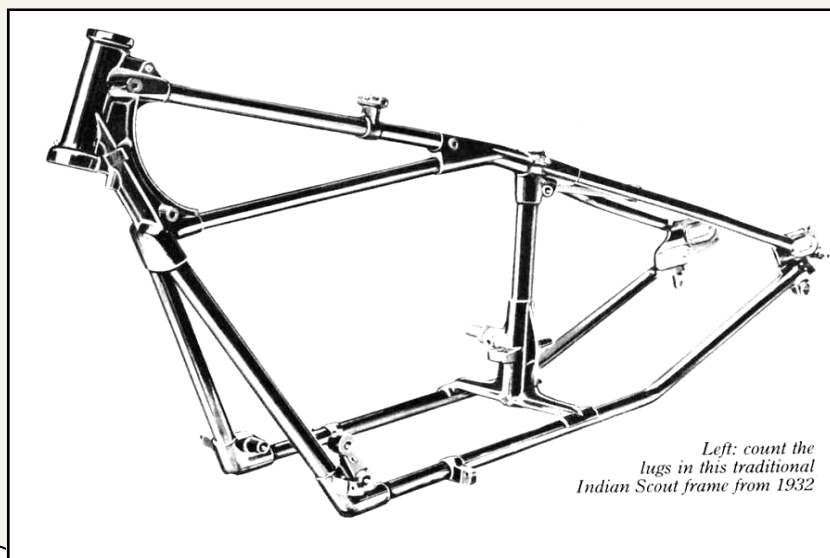
Close examination actually revealed holes burned in the frame tubes in or adjacent to the welds. This does not inspire a lot of confidence in the temper of the tubes in the welding area.

The British industry, with its comparatively small production runs, managed to maintain its supply of properly welded steel tube frames to the end. A few makers – Velocette for one – continued to make hearth-brazed frames for their low-volume modes such as the Venom.

The real answer to the problem of true mass production had been presswork all along, of course. It is often claimed that motorcyclists would not accept pressed steel frames, but a moment's reflection shows that to be true only of a minority.

An astonishing anticipation of later practice was Douglas engineer Cyril Pullin's Pullin-Groome two stroke of 1925. With minor styling changes it would not have looked out-moded in the 1960s.

The sheet steel presswork contained the petrol and oil tanks and completely enclosed a flat single two stroke engine. The front forks were pressed, and one arm of the rear pivoting form suspension with remarkably modern looking enclosed spring units formed the enclosure for the rear chain. Had Cyril Pullin persuaded one of the large and well established companies to market his design, who knows what might have happened? But so confident was he of success that he indulged instead in patents (over 30 of them, in America as well as in Britain) and quickly ran out of money.



That a healthy section of the market would accept pressed steel was proved by the sales of Coventry Eagle machines between 1927 and 1939 and by those of the extensively enclosed Francis Barnett Cruiser of 1933-39. Both of these marques catered for the commuter market of the day. But we may wonder what might have happened, if, say BSA whose customers were after all the utility market had brought out their version of the cruiser?

Whatever may be said of AMC's later years, they were, under the original management, brilliantly successful and forward looking. During the second world war they convinced thousands of service motorcyclists of the virtues of their Teledraulic telescopic front fork, and postwar of their hydraulically damped swinging arm rear suspension. Could AMC have made a pressed steel frame popular?

In July 1946 the London firm applied for patents on a frame designed by Phil Walker that used a pressed beam of steel of preferably duralumin to replace the top tube of an ordinary frame. To this was attached the steering head and at the rear a pressed monocoque carrying the swing arm and the suspension units. Curved tubes were bolted into place to carry the engine and gearbox, making for an orthodox appearance.

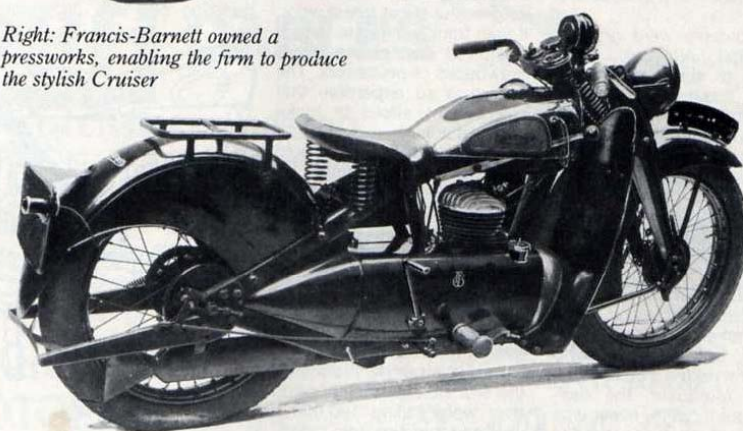
Several prototypes were made and in 1947 AMC acquired Francis and Barnett Ltd, owners of Clarendon Pressworks. Unfortunately, in November that year AMC's new chief development engineer, Freddie Clark – better known for his work at Triumph which included Ernie Lyons' Senior MGP winning twin – was killed, and his wife badly injured while riding one of the prototypes. Development ceased.

The patents were granted into 1950. Although never applied to the larger AMC models, it is again interesting to consider how extensive use of presswork was a feature of the Fran-

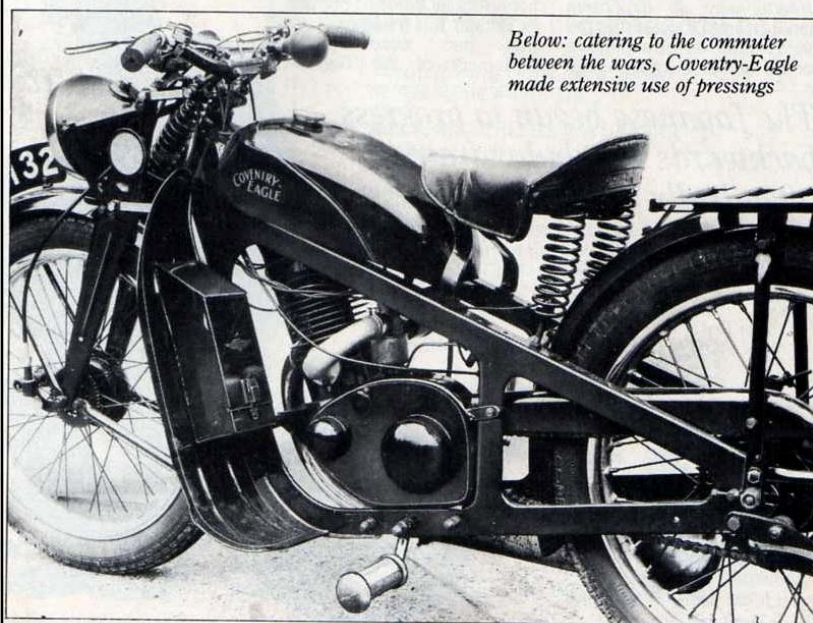
Right: Cyril Pullin's futuristic Pullin-Groom in 1920 – too far, too fast



Right: Francis-Barnett owned a pressworks, enabling the firm to produce the stylish Cruiser



Below: catering to the commuter between the wars, Coventry-Eagle made extensive use of pressings



the 60s.

One firm which staked everything on real mass production and pressed steel was Velocette with the LE. Their logic in designing this remarkable

machine had been impeccable. It was aimed not at hardened motorcyclists, but at people who had never ridden a motorcycle before.

Moreover, the designers got it right – never was there a more ‘user-friendly’ motorcycle than the LE. Unfortunately so expensive had it been to tool up that the price was far, far too expensive for the market and not enough were ever sold to help reduce the price.

Another postwar machine that never really achieved its potential was the Ariel Leader. The Leader’s misfortune was to appear upon the scene at a time when the British market was just about to peak and to be styled to appeal to the sort of customer who rode a motorcycle because he could not afford a car. Its launch practically coincided with that of BMC’s Mini Minor which had a huge appeal to the very man who might have bought a Leader.

Ariel’s reaction was to turn the Leader into the sporting Arrow. Unfortunately, the Leader – a beautiful piece of styling – looked anything but beautiful when it was shorn of its graceful sheet metal work. It was frankly hideous. And it illustrated one of the major drawbacks of presswork. The tooling is so expensive that one cannot afford to make any mistakes.

Although the arrow sold reasonable well in Britain on its sporting performance, it did not sell in the USA. It is often said that the Americans did not like pressed steel frames. Not so. They did not like the Arrow because, at the same time, they were perfectly happy to accept pressed steel frames from Honda.

Less than three years after the first Honda was imported they were selling 100,000 a year and that was only a start. Only by copying not the traditional tubular frame so popular in Britain, but the presswork that had become the trademark of the German industry in the 50s, could Honda have achieved genuine volume production.

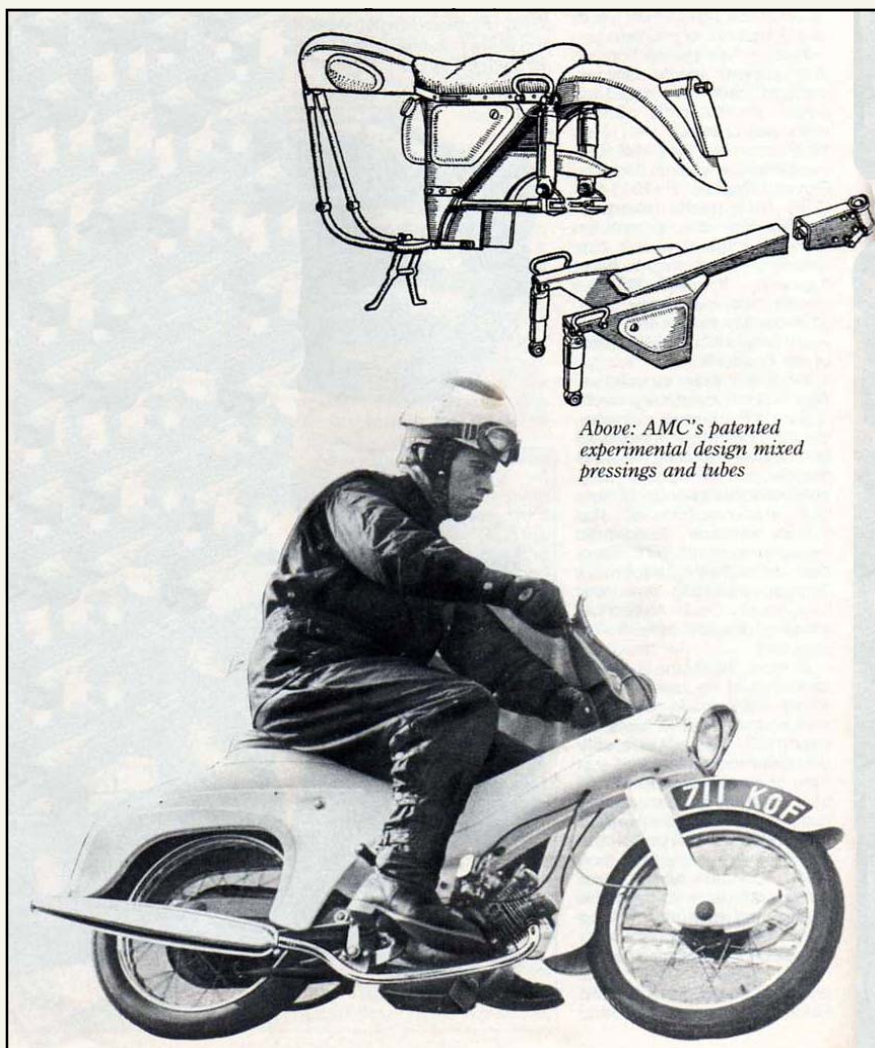
Yet, strangely enough, having shown that they could sell pressed steel motorcycles, the Japanese began to progress backwards, to tubular frames in

racing and the prevailing fashion was for road machines to look like racers. But the Japanese had previously made fashion rather than followed it.

It may be that they foresaw the impending ‘war of model changes’ and decided to adopt the flexibility of production offered by tubing. Whatever the reason, the wretched handling of many Japanese bikes in the 70s sustained a thriving cottage industry in Britain making ‘proper’ frames for Japanese motorcycles.

Over the years there have been so many attempts – pressings, light alloy castings, even the use of wood – to escape the tyranny of steel tubing that it would be impossible to detail

every one. One cannot however leave the subject without mentioning one particularly elegant design. By bridging the cylinder heads of the postwar unit-construction Rapide V-twin with a fabricated oil tank that incorporated the steering head, and by pivoting his swinging arm from the rear of the gearbox, Phil Vincent simply eliminated the frame. Perhaps that was the cleverest solution of all.



Above: AMC's patented experimental design mixed pressings and tubes

Above: The British could be innovative, as this pressed steel beam frame of this Ariel Pixie demonstrates

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The Trent Valley Run

Enough of the technicalities, lets get on with the riding!! We set off towards Low Town Bridgnorth and headed over the Severn and fork off along the Severn Valley railway route to Billingsley and along the Cleobury road to a coffee stop at the Eagle and Serpent, Kinlet. Fooey the landlord put on the super spread and from there we dived into the Wyre Forest to emerge at Clows Top with its breathtaking views of Hereford and Shropshire.

We moved onto Abberley and Great Witley where we turned right onto the Bromyard road to take in a bit of the Teme Valley before looping back to Pensax, Rock, Billingsley, Dunley and returning along the Severn for a compulsory ice cream stop at Teddy Grey's in Bewdley. Parking was at a premium do to the 40's weekend but all managed to slot in somewhere.

Our return journey took us over Shatterford, with more superb views across the Severn Valley to the Clee Hills, onto Alverley and along the main road to the finish at Tony's.

I'm pleased to report no breakdowns or accidents en-route however I feel the need to record a dangerous incident when a nameless member dropped his scoop of ice cream and one of his so called mates trod in it!!! Seriously guys and gals I hope you enjoyed our day as much as I did.

Bill Danks

The Trent Valley Run this year 3rd July was blessed with glorious weather and a dozen bikes (one Vintage, one Post-Vintage and ten Classics (post 1950)) assembled at The Bowling Green Pub in Lichfield. Here we were able to watch a variety of classic vehicles heading for "Cars In The Park" in nearby Beacon Park. Some groups even obliged by meeting up in the Pub car park; including the OCCC or Old Codgers Car Club.

Once we had negotiated the traffic jam of cars waiting to enter the Park the route took us through back lanes to Cannock Chase which was at its most beautiful with sunlight dappling through the trees. On Cannock Chase we passed the German Military Cemetery (Resting place for German armed forces who died on British soil during the 1914 – 18 and 1939 – 45 wars), the Commonwealth Cemetery (contains dead of the 1914 – 18 war including Commonwealth and German soldiers. An annual ANZAC service is held here) and the Katyn Memorial (erected by the Anglo Polish Society to commemorate the massacre of 14,000 members of the Polish Armed Forces and professional classes in Katyn Forest in 1940) before reaching the coffee / ice cream stop at Milford. The route now left Cannock Chase at Wolsey Bridge and into pastoral countryside through Bishton and towards Abbots Bromley before turning left to skirt Blithfield Reservoir. A brief canter along the A518 led us onto more country lanes into Hollington and on to the lunch stop at The Raddle Inn. Here we were able to sit outside, with a wide range of food and drink available, and long views across the Staffordshire Countryside.

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Start of the run at the Bowling Green Inn





Croxden Abbey



View from Raddle Inn

The afternoon route again mainly followed country lanes; first passing the ruins of Croxden Abbey and the JCB factory before passing through Rocester. On the way out of Rocester we passed the impressive recently opened JCB Academy (formerly a mill). On then to Sudbury and past the National Trust owned Sudbury Hall and Museum of Childhood before passing through Hanbury, Dunstall, Yoxall and Kings Bromley on our way to the tea / ice cream stop at Fradley Junction.

As far as I know nobody had any serious problems and the route seems to have been well received. So I hope you all enjoyed the run as much as Pat and I did.

Thanks to all for coming along.

Brian



Katyn Memorial



German War Cemetery at Cannock Chase



Commonwealth War Cemetery at Cannock Chase

PROVISIONAL FORTHCOMING ATTRACTIONS FOR 2011

| | CLUB NIGHTS |
|-----------|---|
| SEPTEMBER | Birmingham's Pearl button Industry. Geo .Hook |
| OCTOBER | Talk by Phillipa Wheeler on Cyclemotors |
| NOVEMBER | Bring and Buy Night |
| DECEMBER | No Meeting |

| DATE | RUN | ORGANISER | Tel No |
|--------------|----------------------|----------------|---------------|
| SEPT 4th | Flight of Fantasy | Trevor Bull | 01905-778917 |
| SEPT 18th | Roger's Run | Roger Greening | 01562-730464 |
| OCTOBER 3rd | Levis Cup Road Trial | Paul Harris | 01902-842732 |
| OCTOBER 9th | Autumn Run | David Spencer | 01746-762957 |
| NOVEMBER 6th | Winter Wander | Martyn Round | 0121-550-1547 |