



# THE BIRTH OF THE JABSAWOCK

- the making of a controversial cross-breed.

- Geoff Stray

## **The Jabsawock is born in the Man-Cave**

With the recent proliferation of Harley Davidsons I noticed that some owners – particularly those in the USA, seemed to be under the impression that Harley Davidson had invented the v-twin, and everyone else had copied them. I knew this was wrong, and decided to put the record straight with a website about British v-twins.

My research into v-twin history revealed that the first petrol-powered v-twin engine was designed by Gottlieb Daimler and patented in Germany in 1889. By 1892, Peugeot in France were using the Daimler engine in cars, and started producing their own v-twin-engined cars by 1897. In 1902, v-twin motorcycles were being produced in France by Clément-Gladiator and Griffon; the latter using the new 1902 De-Dion engine, though later engines for the Griffon were made by Zedel in Switzerland. In 1903, NSU in Germany were selling a v-twin using the Zedel engine. All this happened before Glenn Curtiss in the USA finished his v-twin racer and set a land speed record in 1903. In 1904, Minerva in Belgium started experimenting with v-twin racers, and in 1905 the first v-twins came out of the J.A. Prestwich Industries factory in Tottenham, London. By the end of the year, Matchless, AJS, Acme and Chater-Lea were selling v-twin motorcycles in England. In Europe: Austria, Switzerland, France and Germany were now producing many v-twin models. In the States, Indian had designed a racer and Curtiss went into production. In 1906, Norton produced v-twin bikes with Peugeot engines and set the world speed record, while Indian went into production with their first v-twin. Harley Davidson didn't catch on until 1907, when they showed a prototype at a Chicago exhibition. However, they didn't go on sale until 1909, by which time even more companies were selling v-twins, including Thor and Reading Standard in USA. The Harleys had a design fault and they only sold 27, and then withdrew them, and they weren't re-launched until 1911. Meanwhile, Royal Enfield and several other English manufacturers had launched their own v-twins.

I had to have a JAP-engined bike to showcase the British v-twin pedigree, so in April 2011, I nipped up to Stafford Classic Bike show and jumble in search of a J.A.P. engine. I knew an overhead valve motor would be virtually impossible to find at a reasonable price, but thought maybe I might find a sidevalve twin. There were no JAP v-twins to be found on any stalls at Stafford, and I was just getting despondent when I saw someone pulling a trolley with a sidevalve JAP v-twin on it. I asked him if it was for sale and he said it wasn't because he'd just picked it up at Stafford by prior arrangement. We started talking about JAPs and he revealed that its possible to fit a JAP into a BSA M20 frame. This made a lot of sense as there are plenty of M20s still around, since over 126,000 of them were produced between 1939 and 1945. Just after that, I was leaning on a stand taking a rest, and got talking to an elderly chap called Patrick, who was waiting there to meet his son. He asked me what I was looking for at the jumble, and I said a JAP engine. He said, "Really? I've got one of those in my garage. I might sell it to you." Patrick had got hold of the engine eight years previously as a spare for one of his Morgan three-wheelers. It was a 1000cc model built in 1927. His son was a Vincent mechanic and had declared it to be in very good condition inside, and had also found a v-twin magneto to fit it. Patrick had come over 100 miles South

from West Yorkshire to Stafford, while I had travelled North about 170 miles, so I took his number and we arranged to meet again at the October Stafford show.

Between April and October I started looking around for an M20 rolling chassis. Eventually I found a classic bike enthusiast called Mick in Sussex who had a very incomplete 1938 pre-war hand gearchange M20 with girder forks. When I saw it, I had to have it, since it was easy to visualize it with a v-twin engine, looking amazing - a true "poor man's Brough!" The hand-change M20 is quite rare – they only made them from 1937-1938, so this would be a controversial special. The M20 consisted of a rigid frame with girder forks; seized-up 500cc engine; engine plates; a handchange 4-speed gearbox; an oil tank; a sprung seat; an extremely rusty chain-case and a petrol tank with a very rare original paintjob or more accurately "patina" – neither Mick nor I have yet seen one the same. Also included was a selection of bits of wheels and a front and rear mudguard that had been undercoated.

At least it all fitted in the back of my tiny Toyota, with the seats folded down. I got back to my place – I live in the converted dairy of a Somerset farm – and assembled the main part of the bike on a shiny coffee table in the open-plan kitchen (note that the coffee table is hard to see as it's the same colour as the floor).



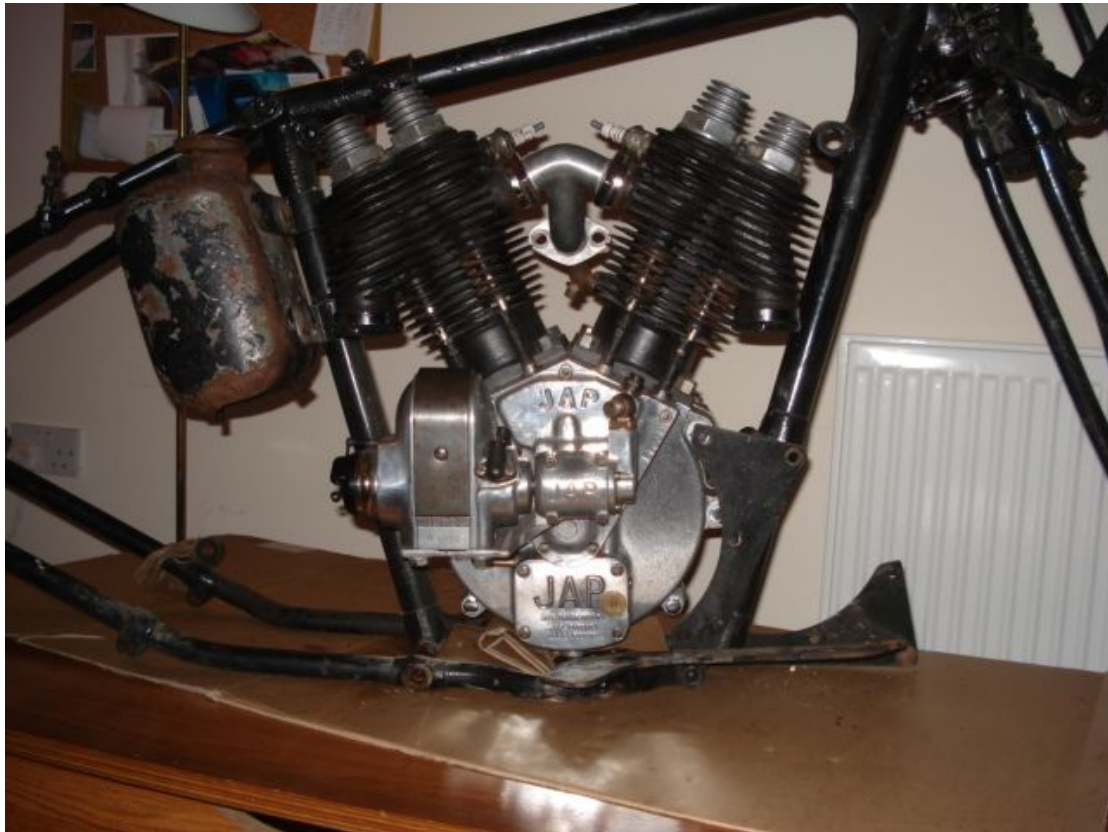
### **The Coffee-table ornament: 1937 M20**

In October I met Patrick at the Stafford show, and when he got the engine out of his boot, I was a bit "gobsmacked" at its beauty. He thought my silence meant I wasn't interested, but I soon recovered and we did the deal. That evening, with my friend Panther Joe, we traced the contours of the JAP twin onto an unfolded



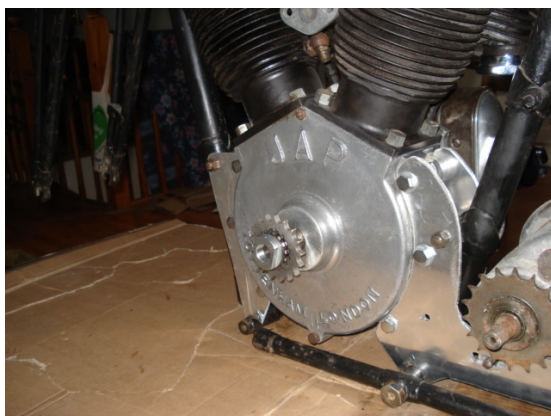
cardboard box, cut out the engine silhouette and placed it in the big empty space in the frame. It seemed to fit!

Within a week, I had shoe-horned the big 1000cc JAP twin into the space where the 500 engine had been, holding it there with one of the M20 front engine brackets. This was the best coffee-table ornament I could have imagined! It stayed on the coffee table for several months while I turned it into a motorcycle.



**The JAP actually fits! The cases are exactly the same width as M20 cases.**

The first job was to design the engine plates. I made cardboard versions of the BSA engine plates, modified to fit the JAP engine. Then I made some mock-ups from sheet aluminium.



**The speedway sprocket carrier is very similar to the original JAP one, but with circlips instead of a big nut. The worn gearbox sprocket was replaced later.**

In the photos you can see a JAP engine sprocket that I got from Speedway Service, that slides to and fro on a splined sleeve (it is actually a Jawa part), allowing the primary chain to create its own alignment. With the engine and gearbox held in by the aluminium plates and the petrol tank in position, the coffee table ornament was becoming mesmerising as I sat at the kitchen table eating my porridge.



I was going to lots of Classic bike jumbles, looking for parts, some of which were being very elusive. The clutch centre is a case in point. The clutch would need beefing up, to take the power of the JAP, so I started collecting six-spring clutch parts to replace the central spring bowl-type clutch that should have been fitted to the handchange box (but was absent). The problem was that the six-spring clutch centre didn't fit the drive shaft of the gearbox. In the end I bought a whole vintage gearbox with clutch still attached, but it was possibly off an early 250 BSA. Unfortunately I damaged the clutch centre getting it off, as it was extremely stubborn, but then I found a clutch centre on a stall at Popham Bike Show in summer 2012. Now I could fit the hybrid clutch using the best parts from about six different clutches. The footrests came from Yeoman's Motorcycle Spares near Birmingham, but they were not cheap.

I had managed to collect enough wheel hubs, brake parts and spindles that I could assemble and fit a tyre-less back wheel and front wheel hub along with the seat. Then I sprayed the front mudguard black, over the grey primer that it had come with, and used WW2 khaki spokes from a peculiar army wheel, that



someone had tried to convert from bearings to bushes, then loosely laced the WW2 rim and spokes to my better front wheel hub. I got Talon in Yeovil to spoke it up properly for me, then had both wheels fitted with new tubes and Dunlop K70s and painted the khaki bits black, but was careful to preserve any nice rusty bits and original paint.



I went to the monthly Kempton Park Classic bike jumble, and as many others as I could get to, but there were still many parts that were eluding me. Then I discovered Draganfly Motorcycles, who had stacks of M20 spares left over from World War II, and Russell Motors who supplied lots of other missing parts.

However, now I noticed a major problem...the girder forks seemed to be bent!



This looked like a job for Jake Robbins – probably the UK's leading Girder fork specialist, who is based in Hastings, Sussex, which was ideal, as my mother and daughter live in Hastings and I was going to be visiting at Christmas. I left the girders in Jake's front garden, as he was busy with festivities, and came back to

pick them up in January, all nice and straight. He also machined up some new tapered face rings for the carburetor manifold, since the old ones were worn out.

Some parts were still proving to be unobtainable. However, reproductions were available. Cornucopia supplied a rack and M20 handlebars, which I painted and then was careful to make sure they got nice and chipped while fitting them, so they would blend in. J.J. Cables made me a replica front brake cable and stainless rod to my specifications. Then I bought some "suicide levers" at Kempton – vintage style stainless brake and clutch levers that are fitted into the handlebars and allow the cables to be concealed inside the bars. They looked great, but still needed about 3 hours of filing and fiddling to get the cables to fit. Then I found they were too wide to fit into the bars. It should have been an "interference fit" – they are put in the freezer, then tapped into heated bars, which then cool down and lock together. I had a local engineering shop machine them to fit, and then whacked them in and they were fine. God knows how I'll get them out when the cables need replacing.

I also took the aluminium engine plates over to Freshlook Engineering in Frome, who laser-cut me some steel ones. They didn't fit, so I had to modify them, and take them back to get a new set with slightly altered hole positions. Again I put them through the painting and chipping process, which will only be completed when the bike has been ridden in the rain.



At Nettley Marsh Eurojumble I found a collection of M20 mudguard stays, headlamp brackets, odd bits and a WWII khaki damper knob for the girders. I picked up a reproduction headlamp at Nettley Marsh Eurojumble, and various BSA pre-war triangular toolboxes here and at the VMCC Founders day jumble – plus a reproduction one, which I didn't use – it wasn't the same quality as the



original rusty ones. I managed to find a reproduction center stand on ebay. It was made in India, and needed days of filing, grinding, heating and bending before it would fit. The carburetor was a fairly rare one with holes in the body – and fortunately Martin Bratby had one left, which he renovated for me. It took months.

Now that the engine was turning over, since I had fitted a primary chain, I ascertained that the magneto wasn't sparking, so took it a very reputable magneto expert for a rewind, and then started making the copper oil pipes. I also made a hand change out of a steel bar, connected it to a modified brake rod, and added a wooden knob. The 4-speed gearchange gate to fit this tank is something I'm still looking for, but have made a temporary brass gate that should do for now.



**Here you can see the heretical foreshortened oil tank supplying oil by gravity feed via the external oil pump to the back of the front cylinder. Note also the handchange.**

I simply had to have Brough silencers, which are available from Armour Exhausts in Bournemouth, so nipped down and got a set, made a bracket and fitted them, and could then see that there wasn't enough room for the exhaust to fit under the oil tank, so I looked around for one that might fit, but eventually took the difficult decision to saw the oil tank in half, remove a section and have it welded back together. BSA purists will probably be outraged by this project anyway, but now they will be grinding their teeth! Sorry. I also dismantled the bike and carried it bit by bit downstairs to the bedroom, where it was reassembled, and moved my bed up to the living room. This is a luxury that is



unavailable to married men, so I thought I might as well take maximum advantage of my divorced status and turn the bedroom into a workshop.

Lawrence of Arabia had called his Brough “Boanerges”, meaning “Sons of Thunder”, which came from the Gospel of Mark. Since my pseudo-Brough was made mostly by Birmingham Small Arms company, and had now spent time in my bedroom, I thought a female arms-related name would be appropriate such Brunhilde – an old Norse name meaning “armed warrior woman”, or Rhonwen – a Welsh name meaning “holy lance”. Since she was built only 33 miles from Wales as the Crow flies, in Avalon, where King Arthurs grave is to be found, the latter seemed a better choice, but as the bike was fitted with a dangerous hand shift and suicide levers, the “Holy Hand Grenade of Antioch” came to mind – especially since it is a parody of the Holy Spear of Antioch. King Arthur and his knights used the grenade to dispatch the Killer Rabbit of Caerbannog, in *Monty Python and the Holy Grail* (actually filmed near a town called Killin in Perthshire). Just as the Python film is a parody of the Holy Grail myth, the JaBSA *could* be seen by Brough owners as a parody of Brough Superiors. The fact that Lewis Carroll’s *Jabberwocky* has been seen as a parody of Oxford scholarship, and describes a scary monster then came into play:

*The Jabberwock, with eyes of flame,  
Came whiffing through the tulgey wood,  
And burbled as it came!*

That was settled - she’s a Jabsawock named Rhonwen! All this research can be compacted into “Ron”.



**Still on the coffee table, sporting Brough silencers; Ron only needs exhausts to be completed. Now she has a front brake rod and pillion pad.**

Finally, it was time to get some exhausts made, so my friend Panther Rob helped me get the bike off the coffee table, which we did by an ingenious process of tipping it forward onto a Panther M120 engine, kicking the coffee table out from under it, then lowering the back end to the floor. Then I rolled it back off the Panther engine but the weight took over and pushed the back light right through the plasterboard of the bedroom wall, leaving a neat round hole.



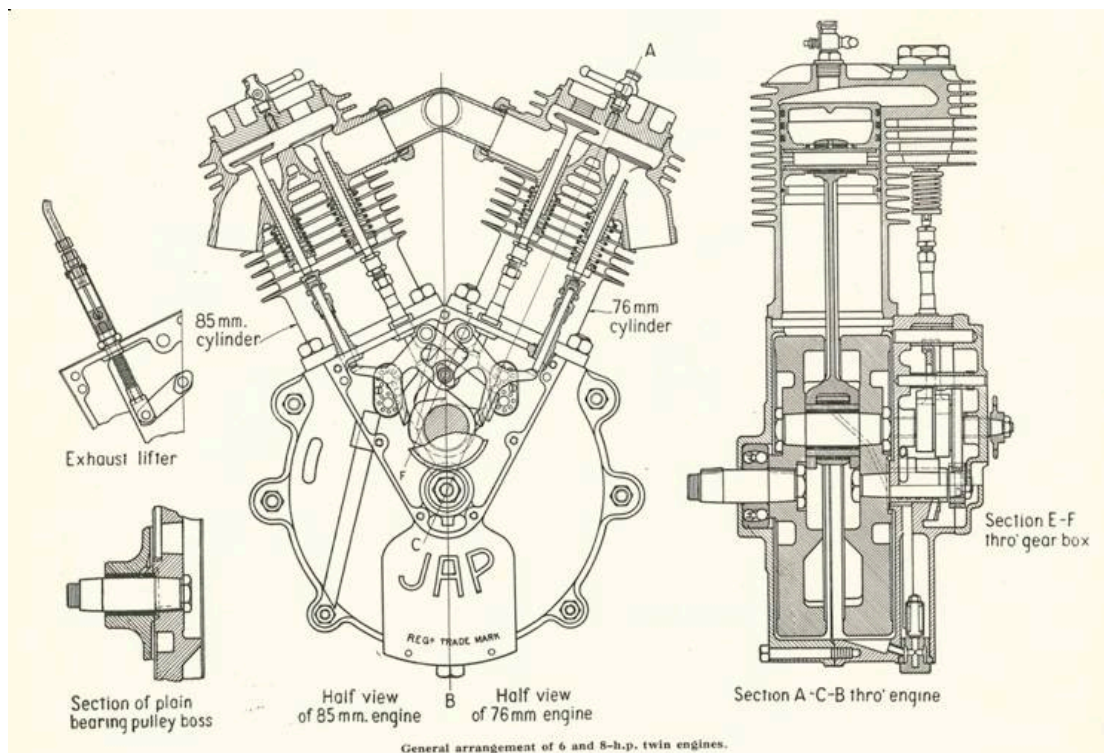
The bike was ok. I pushed a table against the wall to hide the hole and we loaded the bike onto Rob's trailer and took it over to an exhaust specialist who knocked up a pair of stainless pipes. It took about a week. They're a bit angular looking, but they'll do for now.

After cleaning out the oil pump and spending hours priming it with a flexible drill drive, then getting oil into the crankcase by pumping it up through the drain plug from a squeeze bottle, and fixing petrol leaks, it was finally time to try and start the beast. Allan Panther (alias Kaptain Kompost) took over when I ran out of steam, but all we could get was a slight coughing from the carburetor. Panther Joe was ready with his video camera but there was no action. It was very stiff to kick over and we decided it needed a valve-lifter, so I asked people on the JAP facebook group if they could help, and Keith Velo-Jap came round with one that I could temporarily fit on, so I would know what to look for. It fitted, so I noted the dimensions of all the components, and started searching the net and autojumbles but couldn't find one...





**Keith's sidevalve JAP twin valve-lifter**

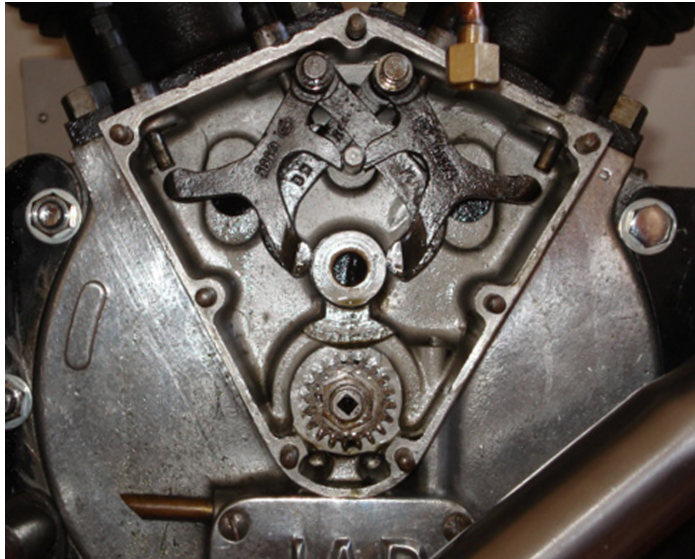


**This diagram shows where the valve-lifter goes, attached to the timing cover.**

Then I mentioned it at a Panther Rally, and Panther Paul said he actually had one, and would bring it to the Shepton show, where he gave it to me as a gift. Panther people are great guys! The timing gears and cam had come out when I took the cover off, so I replaced the whole caboodle with the dots lined up again, put the



cover on, connected the valve-lifter cable to a lever, re-connected the oil pipes after re-priming the system, re-fitted the magneto, and got Kaptain Kompost to come over again.



### **Single cam arrangement of the sidevalve twin with cam removed.**

We kicked and kicked until we were exhausted. It was the same story – the valve-lifter didn't make much difference, and now it was only sparking on one side. I took the mag back to the mag expert, and he turned the mag over by hand, producing 2 fat sparks! I felt silly, (but not as silly as the guy who travelled about 250 miles each way to return his magneto, only to find the problem was a bit of cigarette paper stuck between the contact-breakers!). I got home, put the mag on the bike, and again – only one spark! I swopped the leads, swopped plugs, checked the conductivity of leads and carbon pick-ups, but couldn't find the problem!

It was time to enlist the help of Lewis Motors of Chard. After lengthy investigations, including long phone conversations with a Morgan aficionado, they found several problems that would probably have taken me years to work out.

1. There was an unnecessary spacer in the gearbox that was causing friction, making it hard to kick over.
2. The magneto problem was due to the fact that on v-twin magnetos, the second spark is always weaker (unless there are 2 magnetos), so a slow kick will not light it up. The gearbox mod allowed the engine to spin a bit faster, building sufficient charge for the second spark.
3. The dots on the camshaft gear and crank pinion were lined up, but they were in the wrong place, resulting in the timing being off by 180 degrees. They had to be re-aligned.
4. The crankcase and oil pump were more recent than the barrels, so the oil feed to the rear of the front cylinder was resulting in too much oil going to the engine. An oil-feed regulator valve also needed fitting, so the gravity-fed system could be adjusted manually to get the feed rate precise.
5. The main jet should be a 180 and not a 150.

Due to the Christmas post delaying parts arrival, then the endless rain and flooding, the needed 40-mile test ride was delayed and delayed. I didn't get the Jabsawock back til late March and the test had not been done. Rob from Lewis Motors was able to repeatedly start the bike up on the first kick. Nobody else could get more than a cough and splutter out of the Holy Lance, so I got Rob to give me a training session.

After only one kick, Ron burst into thunderous song; a most satisfying throb that settled into a slow heartbeat after a few minutes. I rode her into Glastonbury and parked close to Arthur's grave, where she was surrounded by admiration. She is very comfortable and handles well but there was a large cloud of blue smoke following her. This would diminish as I adjusted the delivery valve. The tank overflow would need blocking up, as she was covered in oil - a catching can from the constant loss pipe would also be handy.

The valves were sticking now and again, leading to backfires and running on one cylinder, and engine failure in Pilton. The clutch would need adjusting as the drag was causing difficulty in gear selection with the hand change - the Jabsawock was a terrifying steed. She left me with a swollen knee, a huge bruise down the right shin and a seized back (when she hadn't started first kick). These were just teething problems of course.

Kaptain Kompost rode the beast when she injured me and we made it to the Panther Owners club meeting at the Hunter's Lodge near Priddy, on the Mendips. I followed on my Panther and inhaled the blue Jabsawock smoke and watched the flaming exhausts. The valves settled down on the return trip, but she left Kompost with an enflamed wrist from the suicide shift and aches down the right hand side. However, we both had grins that wouldn't go away.