

The Simson Story and the Simson AWO 425



Written by Keith Philpot

Copyright 2014



The author in 2014 at
the Simson Works in
Suhl

Timeline

1856. Moses Simson buys the Heinrich Hammer works in Suhl. Together with brother Loew produces weapons and handguns as Suehler Eisenwerk

1896. The second Simson generation add coaches and bicycles.

1911. Car production begins

1914. Production returns to weapons manufacture which continues at the end of World War 1 for police and military purposes.

1924. Car production resumes.



Adolph Hitler had one of these!

1933. Hitler decrees production must switch to “ higher goals “. To this end Waffa GmbH is established.

1933. Waffa GmbH taken over by Nazi “ Treuhaendler “ , trustees. Company renamed Berlin Suehler Waffen und Fahrzeugwerke Simson & Co GmbH. The Simson brand is back.

1935. On racist grounds on 28 November 1935 the Jewish management, which had been reduced to non executive status , was fined 1.75 million Reichmarks on the Nazi grounds of “ Illegally gained profits “ under their ban on Jewish business ownership.

1936. The Simson family flee to the USA. Meanwhile , under the brand name BSW, some 3000 units of motorised bicycles are produced up to 1939.

1939. Production is switched to weapons but another 1500 motorised bicycles are produced up to 1940. The company changes name again to GSW, Gustlow Werke Waffenwerk Suhl.



1 July 1945. American occupation forces withdraw back West behind the Werra river leaving control of Suhl to the Russians. The production facility was dismantled and transported to Russia. However, a repair facility was left standing to produce spare parts for hunting weapons, bicycles and prams for Russian consumption.

5 March 1947. The Simson name returns. This time within a Soviet company name SAG, Sowjetische Aktiengesellschaft Werk Simson or AWTOVELO as the Russians named motorcycle production.



December 1948. Out of the blue the Soviets decreed that Simson produce a 250cc 14PS single cylinder four stroke motorcycle with a unit construction 4 speed gearbox, shaft drive and enclosed telescopic suspension front and rear. It was no coincidence that at nearby Eisenach, now also under Russian control and part of the AWTOVELO group, was a pre war BMW works which had marketed their models as EMW. Coincidentally, over in the West in Munich, BMW was developing its own R25 4 stroke single and the pre war Munich / Eisenach connection was still live.

Nonetheless Simson engineers Helmut Pilz and Ewald Daehn went their own way with the design of the Simson engine as they sought punchy performance.



21 December 1950. The first 1000 units of the AWO 425 (AWTOWELO 4 stroke 250) were produced and promptly despatched by rail to Russia.



1951. AWO 425 released for sale in the DDR (Deutsche Demokratik Republik) East Germany as it was known in the West.

1951 – 1955. The AWO 425 became the AWO 425 T , for touring , with the launch of the greatly revised AWO 425 S , for sport , in 1955. This machine was not intended as a machine for the masses with its sale price of 3200 Ostmarks at a time when average wages were some 500 Ostmarks per month. It was targeted at middle ranking party officials and for ceremonial use. Accordingly it was intended to showcase the finest motorcycle engineering in the DDR.



1955 – 1961. Production was abruptly brought to a sudden end , after production of some 124,000 units of AWO 425 T and 84,600 units of AWO 425 S, by the astonishing Soviet decree that henceforth all DDR car and motorcycle engine production had to be 2 stroke only.





About the Simson 425 S



Messrs Pilz and Daehn went about the design of the 425 S with predictable German thoroughness. Every detail from front to back is by design. The 3.25 x 18 diameter wheels front and back are equipped with full width single leading shoe brakes in 180mm alloy ribbed hubs. Detail here is in the awareness of the need to reduce unsprung weight. But get this. The brake linings are glued to the alloy shoes on the basis that this gives both a greater surface contact area for linings due to the lack of rivet holes plus longer wear as no allowance has to be made for rivet heads buried inside said holes.

Both wheels have quick release spindle mechanisms. The front mudguard has a fender extender as standard. The handlebars come with alloy pullbacks as standard and the throttle cable runs inside the bars.

A friction steering damper is fitted as standard as are parking light plus neutral and ignition warning lights on the headlamp shell. Alloy, non ball ended, handlebar levers are fitted.

The frame is a twin loop steel construction. The reason for this is to create a mounting point across the rear of the gearbox to mount the grease nipple equipped swinging arm. Twin pre load adjustable enclosed rear shocks with 100mm travel replaced the plunger suspension of the touring version. Front forks are sprung for 150mm travel with oil damping. The footrests are height adjustable as is the rear brake pedal for the rod operated rear brake. The frame is equipped with sidecar mounting points plus sprung side and centre stands. Lockable boxes are integrated on both sides beneath the saddle to contain the electrics on the brake side and the comprehensive toolkit on the clutch side.

The motor is a so called Querlaufer – Cross Runner – sound familiar Honda ? In order to simplify the take off for the rubber cush mounted shaft drive the crankshaft runs in line with the wheels rather than across the frame.

Accordingly the cylinder head is turned through 90 degrees to give a conventional front to back exhaust / carburettor layout.

The engine is of an all alloy crankcase, gearbox, cylinder and head construction. All bearings are either steel ball or needle races. The engine is designed to rev, helped by its square 68mm x 68mm bore / stroke dimensions and to produce 14 PS at 6300 rpm. Key to performance is the cylinder head design. The 2 valve head has 2 different valve types, both of 8mm diameter with 36 mm stems.

The exhaust valve is conventional in side profile but made of a more heat resistant steel to the cooler running inlet valve. This has a so called tulip profile, the shoulders of the head are longer and fatter. Both valves are angled at 45 degrees and run in phosphor bronze guides with different lengths for exhaust and inlet. The valves are sprung by 2 piece hairpin springs rather than coil springs. The rationale is that hairpin springs do not get coil bound in high revving engines.



**Cylinder Head
exposed but minus
bolts to crankcase**

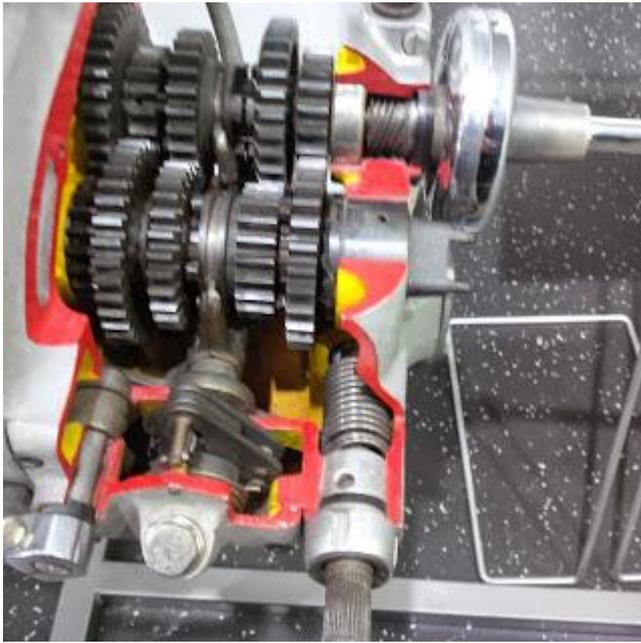
The valves protrude a long way into the combustion chamber as the 7.2:1 compression ratio high domed piston has deep cutaways each side to allow clearance for the valve heads.

Fuel mixture is fed to the high cam alloy push rod overhead valve engine via a 26mm diameter remote float, flat slide downdraught carburettor which draws air through a long inlet trumpet sealed into the still airbox under the seat at a design rate of 28000 litres air intake at 80 kph .

Told you that everything was engineered.

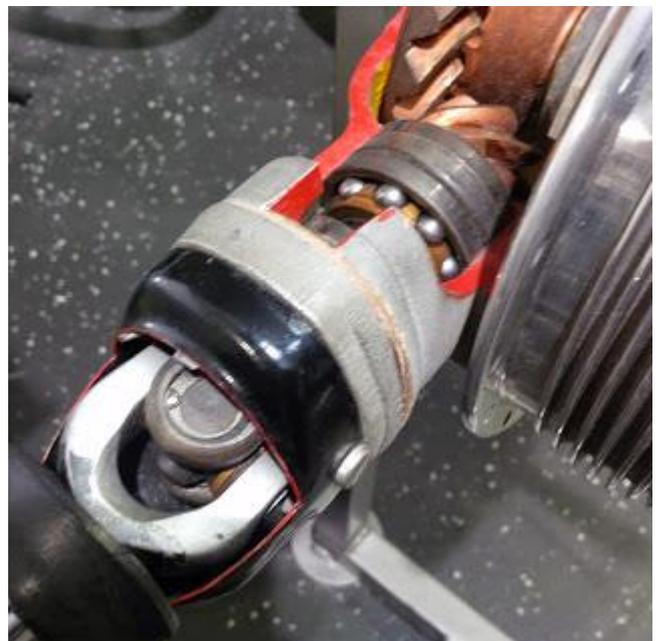
The result is a motor that does not go Thump, Thump, Thump but rather Bang, Bang, Bang as it exhausts through the 3 part silencer with internal back pressure design. This earned the bike the nickname of Dampfhammer – Steam Hammer – in its native DDR.

Transmission is via a 4 speed gearbox driving through a single plate dry clutch.



4 speed positive stop
gear box internals

Final drive from shaft to rear wheel



Final bevel drive



Camshaft and followers to alloy pushrods

A quant touch is that the left side one down three up foot change is positive stop whereas the hand change lever, a left over from the original 1923 engine / transmission layout, is not. This lever describes a long arc dependent upon which gear the gearbox is in. It is nonetheless handy at a standstill to select neutral as shown by the green neutral light on the headlamp shell. On this machine the original 6 volt electrics have been replaced by a 12 volt power dynamo conversion which dispenses with the original contact breakers and mechanical auto timing device. The machine has ignition light, parking light, brake light in addition to the headlight and horn.

The ignition key is a slotted rod which inserts into the headlamp shell to be rotated to the required position. For rainy days there is a neat Bakelite sliding cover to stop water getting into the ignition hole when the key is removed. However the original electrics are dependent upon a tiny glass 20mm 25amp car interior light fuse held between 2 flat spring connectors to transmit power from the battery.

The original owner's handbook, which I have, shows just how patrician the Party state was as it unselfconsciously lectures the proud new owner as if of right. How many times, it thunders, have you seen fine machines in workshops because of poor maintenance ? This is why we have provided all the tools you need.

Also, it rants on, how often have you seen spark plug threads stripped ? This is why we have equipped this machine with steel thread inserts for the spark plug.

All this aside another little quirk is that on the clutch side of the cylinder head is a cut out of the finning designed, so the book says, to aid cooling air to transit across the cylinder head.

So here it is. A living relic of a manufacturer, country and ideology all of which have long gone. With the mentality of the time in the DDR it came as a complete surprise in Suhl that Simson production would drop from full operation to zero within 3 months of the fall of the Berlin Wall in November 1989. A few far sighted people at Simson hosted a delegation from Honda in the hope that they would produce their vehicles in Suhl much as they were doing in Italy. The delegation took one look at the long row of ancient, decaying buildings of the still standing original plant and shook their heads. Only one building, Simson's newest and finest purpose built only 3 years before, aroused interest. Once inside this too was rejected. Simson could not have known, thanks to the way the regime had operated, that in Japan factories were built on the basis of huge open sheds. Simson's newest building was on 3 floors. That ended all hopes with Honda.

The factory site is preserved as an historic site today. Along one side runs a river. Along another side runs the railroad and beyond that the road to Suhl. All the basic utilities and transport facilities needed for manufacture were there.

What was astonishing was that Simson managed to produce the volume of machines that they did whilst under the limitations that resulted from the puppet Soviet regime that Erich Honecker imposed upon the country for decades. The currency, the Ostmark, was absolutely valueless anywhere outside the country. Trade outside the DDR was restricted by the outside world to the COMECON, Eastern bloc states, plus mavericks like Cuba and some African states. To trade with Eastern bloc neighbours in the desperate quest for basic raw materials Simson had to deal in Export Roubles, a false Soviet currency only accepted within that bloc. But this meant exchange rate losses. So barter was the name of the game. A rail car full of motorcycles would be swapped around several times from one commodity to another until Simson finally wound up with something they could trade for hard currency, the Dollar. Even then the raw materials available to Simson were low grade and of poor quality.

This affected other Eastern bloc manufacturers too and led to tragic consequences for Jawa in Czechoslovakia for example. World Champion Bill Ivy died in 1968 whilst touring back to the pits at the Sachsenring with his helmet strap undone. The front left cylinder of his 350cc V4 2 stroke Jawa suddenly seized, flung him over the top and straight into an unprotected fence post upright. He died instantly. The cause was poor quality materials in the piston and cylinder. Subsequently Italian racer Silvio Grassetti rebuilt the bike with Nikasil bores, Carrillo conrods and Mahle pistons and campaigned it for years.

But, back to Simson. The isolation of the DDR gave Simson no choice but to do it all themselves. So they did. At one end of the row of buildings was the casting shop, then the engine shop, the gearbox and so on. The separate buildings are standing now and can be seen linked by sloping bridges through which components would travel onwards. Frames, for example, were slung on hooks on moving lines.

The Simson Factory and facilities



The Simson factory is located 2km East of the town centre of Suhl in Thuringia, the South Eastern state in Germany which neighbours the Czech Republic some 30 kms to the East and Bavaria to the South. The original buildings are now protected monuments and are partly sub let to various small businesses.



The author enjoys a stroll through the historic site in the company of my great friend Wolfgang Richter who worked here during the DDR era.

On site in some of the original buildings are small specialist suppliers producing Simson components with separate businesses supplying 2stroke and 4 stroke machines. Zweiradhaus Suhl www.zweiradhaus-suhl.de have a wonderful Aladdin's cave of AWO new parts of all kinds including complete cylinder heads and a Mikuni carb conversion.



At the altar of all things AWO

This is not an accessory store but a serious supplier of impossible to find new and used parts as can be seen in the superb restorations on display. In another small building refurbished 2 stroke Simsons are for sale and in another unit complete new 2 stroke engines and parts are produced for sale. In 2014 the Simson supply chain is in a healthy state.

But back to the DDR and the euphemistically named Former Political Times. This is a handy term used by former DDR subjects to exonerate themselves from any possible complicity in the murky goings on of that totalitarian state which had the unpleasant distinction of outdoing Himmler's Gestapo in having in place 1 Stasi, secret police, informer for every 6 - yes that's 6 - members of the 17 million population when taking in to account the volunteer snitches happy to inform on the smallest detail of the activities of friends, family and colleagues. By comparison Himmler only managed 1 Gestapo informer per 3000 head of the then population. When Germany was reunified in 1990 and the Stasi files were exposed it was calculated that if piled in to a stack of files it would be 125 miles high. And this is after the desperate attempts of the Stasi to destroy files when they realised the game was up.

Stasi HQs were found deserted with the culprits having fled leaving everything as it was with the bizarre sight of dozens of burned out shredders littered about. When the protests became overwhelming the DDR authorities panicked and released hard currency funds to agents to cross to the West and return with shredders. Of course many jumped at this golden opportunity and neither shredders, cash or many an agent was seen in the East again.

The Simson factory is entered under a large arched sign and immediately presents itself to the left as a long row of single storied buildings with ornate arched frontices lining the interior road in an orderly German manner. But this was the DDR.



Right opposite is a newer multi storey almost Art Deco building housing administration , canteen and on the top floor The Party offices. Nowhere was beyond sight of The Party. Their offices were on the top floor to the left with a good view of the whole site.



On the right immediately after the entrance arch is the beautifully Gothic styled hospital building.



The chain of production actually started at the far end of the row of buildings. Here the raw alloy engine castings, which were produced in Hungary, were finished and mated to the engine and transmission internals which were produced on site. An astonishing detail is that the milling machinery in this department leaked 400 litres of lubricating fluid directly into the ground each day. Quite why this is so is unclear as the site had its own power generator system to overcome the always intermittent electricity supply in the DDR so why this fluid was not used to power it is a mystery.



The frames were welded up and then dipped in red lead undercoat before being slung on hooks on the chain transports to the next building for spraying via the Bridge of Sighs style bridges between buildings.



That was it for paint. Just one coat of under and top coat. Chromium plating was also carried out on site. This resulted in an environmentally horrific situation which is unresolved to this day. Simson was no different to any other DDR manufacturer when the DDR collapsed so suddenly as it went from full production to closed in under 3 months. The chromium plating system consisted of open tanks of acid and chromium solution. When the end came the whole department, including full tanks and whole new barrels of acid was bulldozed flat, earthed over and a road laid on top which is there to this day. Some 3000 people had worked for Simson, many of them for generations and living in the same purpose built houses directly across the railway tracks next to the factory. The site included an apprentices building , production units and the research and development facility. It was possible to progress all the way through these without leaving the site or to have to go elsewhere to learn additional skills. This of course made it doubly hard when the end came. Not only did the outside world clamour for Hondas but now that their eyes were opened so did the suddenly free citizens of the defunct regime. Another blow was that whereas Suhl had been the provincial capital under the DDR , with all the administrative posts that required , upon reunification the provincial capital was promptly switched to Erfurt. Thus began the slow death of the city with a rush to the West that continues to this day. The population has dropped from 70000 to 30000 with young people leaving in droves as soon as their education permits. Not for nothing do the Suhlens wryly comment that after 1800 hours the doorsteps are rolled up in the town. As usual the regime planted ugly square Soviet style blocks in the town centre but, as can be observed elsewhere in the former DDR, everything else was largely left untouched and in some cases to rot. This has led to the wonderful sight in many places of time warp towns left absolutely as they were before the Soviet regime arrived 65 years previously.

With little demand or prospects for large out of town retail centres in such locations shopping can still be done by visiting all the individual shops in the town, often around the square.

Life continues to be hard for those that have stayed. In spite of the billions lavished on the former DDR to boost redevelopment and employment only 3 major companies have relocated to the East and they have gravitated towards Berlin. In Suhl as everywhere else the urban and rural areas remain blighted by hideous Soviet style apartment blocks, perfect breeding grounds for the discontented who have no prospect of getting out. Leipzig, where the storm of protest broke the back of the Soviet regime outside Berlin, is now the centre of new neo Nazi factions. Racism is again a serious issue. Graffiti with neo Nazi symbols and slogans can be seen all along the bridges of the cycle path winding out of the city of Leipzig.

The blocked up entrance to the Stasi underground shooting range behind the Simson factory, Simson made the AK 47 Kalaschnikov assault rifles here, as all manufacturers had to produce something for the military as well as their core products. Must have been some range, look how thick the cables are.





But back to Suhl. Here, as elsewhere, reunification brought issues regarding title to property. Alongside immaculate properties it is not unusual to see an adjoining property in a derelict state. Over the years in many cases all record of ownership has disappeared as have also the previous occupants. Thus with no legal basis to do anything with them such buildings are slowly crumbling away. But maybe that is the way of the East. Behind the ancient buildings of the original Simson works the new businesses are now also piling high rusty metal and bent components open to the elements in skips with no regard to appearance or safety. Maybe old ways die hard.

A look back at the patrician attitude all prevalent in the DDR is provided in this direct translation from the original 1958 Simson Sport handbook. It states :-

The workers and engineers of the people's own industry have by their combined work produced the Simson Sport.

This product of the vehicle industry of the German Democratic Republic is constructed to the latest technical standards. It is intended to help the owner in his professional work and to provide pleasure in leisure time. The longevity and reliability of a vehicle is dependent in the first place upon correct servicing and care. Instructions on how this is to be done are given in the instructions for use.

Not a word of welcome, gratitude or congratulation on your purchase. Nothing at all from the point of view of the consumer. Why should there be. After all such considerations were exactly what the Soviet ideology detested most. And what a staggeringly deluded concept of state of the art motorcycle technology. Over in West Germany NSU at Neckarsulm were racing the jewel like twin overhead cam twin cylinder motors that were within 1 year of becoming cloned by Honda when they photographed every tiny detail at the 1959 TT. In Italy Ducati were racing with desmodromic valvegear. And then there were the MV and Gilera fours not to forget to mention the Moto Guzzi V8.

What the general public in the DDR would probably have known little of was that Simson had developed its own double overhead camshaft 350cc twin cylinder racer with chain final drive.



250cc Chain drive single cylinder



350cc DOHC chain drive twin

R & D Department



Also a 350cc motor for the AWO was being supplied to security and military units but never made it to general production. It did however feature in Enduro machines before the 4 stroke ban in 1961.

AWO Enduro 350 cc



The AWO even went racing !



Failed projects department

80cc single cylinder 2 stroke disc valve racer completed just in time for the 80cc class to be scrapped. Plans were afoot to turn it into a 125cc but then The Wall came down and it was never finished.



80cc 2 stroke disc valve racer



2 stroke with 4 stroke
exhaust valve gear

And here is the original Enduro team truck



Some technical details of the Simson 425 Sport.

Capacity 247 cc

OHV 4 stroke

Single cylinder air cooled

2 valves , inlet tulip head 8 mm stem 36 mm head , exhaust conventional shape same dimensions

Valve springs 2 piece hair spring type

Valve guides phosphor bronze , inlet shorter than exhaust

Piston 3 rings with valve cut outs on crown

Bore and Stroke 68mm x 68mm

Compression ratio 7.2 : 1

Carburettor 26 mm diameter 15 degrees down draught flat slide

Air box sealed under seat delivering 28000 Litres at 80 kph

Output 14 PS at 6300 rpm

Top speed 110 kph

Weight 156 kg without fuel, tank capacity 16 litres

Fuel consumption 3.7 litres per 100 km

Tank range 350 - 400 km

Final drive shaft with rubber Cush drive

Gearbox 4 speed foot and hand change

Clutch single dry plate

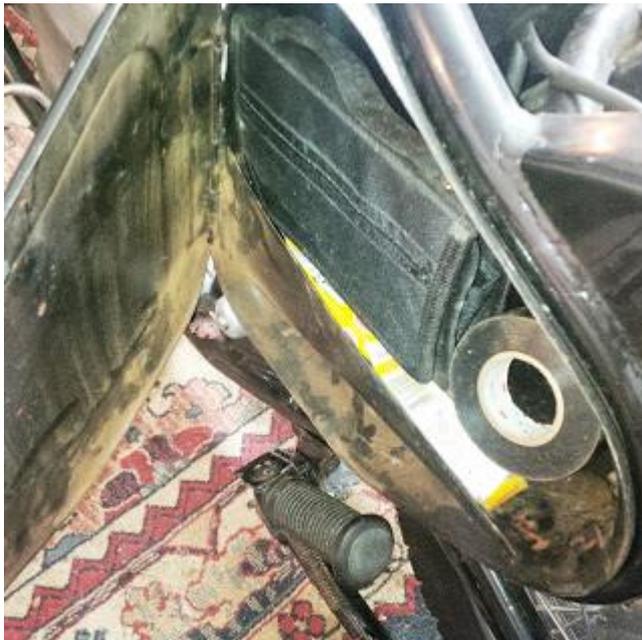
Frame twin down tube with rear swinging arm
Front forks hydraulic single rate springs 150 mm travel
Rear suspension twin hydraulic shocks with pre load adjustment 100 mm travel
Footrests fully adjustable
Gear lever adjustable
Rear brake pedal adjustable
Wheels 3.25 x 18
Brakes full width alloy hubs 180 mm single leading shoe with ventilation ribs
Turning circle 3.5 metres
Ground clearance 145 mm
Electrics 6 volt 45/60 Watts via dynamo and contact breaker
Thankfully this machine has a 12 volt contact less power dynamo conversion
Illumination , park, dipped and main beam, rear brake light, headlamp shell
mounted neutral and ignition lights



1958 Simson 425 Sport
as purchased



First look with seat and tank off



Inside tool box



Pitted rusty headlamp reflector

So what did the refurbishment of this machine entail ? Starting from the front the replacements have been : -

Headlamp reflector

Spare ignition key

Long Bowden cable inner for clutch. The bike came with a slipping clutch. No wonder. The inner cable was too short thus the actuating arm fouled the bell housing at the rear of the crankcase so it could neither fully engage or release.

A clue was that the lever only came back this far to the bars!!!



Actuating lever fouling the gearbox housing

With full travel it now operates with a light, sweet action.

Bowden inner cable kit and nipples from e bay.



Fuel tap. This was a by product of the carburettor saga. More on this in a moment. A complete , refurbished ,original tap has replaced the other original tap due to a horizontal fuel outlet which can accommodate the replacement carb.



Replacement refurbished original fuel tap with horizontal outlet

Having wondered upon draining the tank why a cigarette sized filter sieve fell out a replacement was purchased. This had a brass sleeve which the loose one did not and would not fit through the tank entry hole. The original sleeve was still in the hole so was gently removed using a tap. The new filter then fitted in snugly and the new fuel tap went straight on.

Another issue when the machine was purchased was rich running, very sooty plug. Suspects were worn carburettor and or valve guides. Removal of the original flat slide carb revealed scored and worn slide so an after market 26mm replacement was bought.

Original BvF – Berliner Vergaser Fabrik carburettor – this attempt failed due to fuel not being able to defy gravity + fuel siphoning out of tickler breathing hole.



Original
Berliner Vergaser Fabrik
carburettor



And the float bowl contained this!!

Replacement aftermarket carburettor – 1st one with breather hole in float bowl top – later replaced with 2nd one this time minus said hole.



The flange holes were too close together to fit on the cylinder head spigots. Cured with an 11 mm drill and round file. Tests with fuel on led to fuel pouring out of a tiny bleed hole on the float chamber cover joint. Tests of same thing with original carb did the same thing. The carb supplier sent over a complete new aftermarket carb this time with hole blanked off. No more leaks plus I now had 2 identical new carbs plus the old one. Bike still ran rich though.

Off with his head – revealed this!



Piston crown after removal of soot

Cylinder head. Very sooty exhaust valve area but clean on inlet side. Loose valve guides. Head sent complete to Norton Inter specialist Stu Rogers. New valves, springs and guides purchased. somehow ended up with mismatched valve and guides diameters. Stu turned new guides to match valves. Removal of existing valve gear revealed broken inlet valve spring, incorrect valves - both were tulip whereas only inlet should be – plus both guides were of exhaust length whereas inlet is shorter. All this was corrected.

Head went back on like this



Cleaned up piston ready for head to go back on

2 piece hairpin valve springs as removed from head – broken inlet spring is on the left.



2 inlet valves, tulip shape, as removed + new guides, unfortunately wrong size as I ordered the wrong ones hence it was easier for Stu to make the correct ones.



Cylinder head with new valves and guides



Pushrods were mismatched. Inlet was bent alloy and exhaust steel. Both replaced with correct alloy rods.

New correct alloy pushrods



Bike still ran rich.

Ignition. This machine has had a Czech made 12 volt power dynamo conversion fitted which does away with points.

12 volt contactless conversion as first revealed showing Red timing dot incorrectly positioned, causing retarded ignition, it is now lined up correctly with the contact.



Timing with points fitted requires the crankshaft marker stamp of ZP Zundepunkt , ignition point, to be visible through the peep hole under a rubber bung in the crankcase wall which is 10 degrees before top dead centre.



This peep hole reveals 2 stamped settings as flywheel is rotated. Here is ZP Zundepunkt – 10 degrees before further rotation reveals OTP Oberen Tot Punkt - TDC

Study of the power dynamo website revealed a vital missing page from the instruction sheets that came with the bike.

A tiny red dot on the dynamo must be set just before the static contact pick up when at ZP. The dynamo spins on the end of the crankshaft and is held in place by a left hand thread M7 35mm bolt. This came out with a nasty spongy feel. The red dot was miles out of place so the dynamo rotor needed to be removed and turned to the correct position. The special puller was purchased and rotor removed. Gentle retightening of the bolt led to that horrible sinking feeling as it turned more easily the tighter it should have become. Curses. Threads flattened on bolt and part stripped in 5mm wall of circular alloy bolt spigot. Replacement exact bolt obtained. No joy, same result. Through a chance contact an 8mm left hand 35mm Allen bolt was custom made plus loan of an 8mm left hand tap. Also purchased an 8mm helicoil kit and noticed that the drill size was not 8mm but slightly oversize to accommodate the helicoil insert. In a Damn the Torpedoes moment drilled out the thread using this drill and tapped the hole with left hand 8mm tap. Bolt went straight and tight. In a Take no Prisoners moment also purchase Loctite 270 with 44nM breakaway but decided not to use this for initial test runs in case the dot position was wrong. So rotor correctly positioned and bolted up tight. For the first time the motor did not feel like a two stroke gassing up due to too much oil in the mix. It had been gutless on inclines which led to too many revs and a broken rocker arm tip and dead bike. 2 complete rocker arms were located in Germany but with different locating holes diameters, 9mm and 11 mm. This bike needs 11mm so I now have not only 3 carbs but 3 rocker arms for one bike.



Possibly the largest collection of rocker bridges with rocker arms in the UK!!!

However bike still ran rich.

Fitted new HT lead, plug cap and plug. BSRR - bike still ran rich.

Removed carb bell mouth and connection to air box. BSRR.

Junked nasty original cheese grater air box cover so called filter and replaced with mesh.

Original air box cover and mesh – should have contained a filter but did not.



Refurbished original air box cover and new carburettor



A look inside the airbox



Contacted carb supplier Adam Jahn who supplied 2 smaller diameter 0.93 and 0.82 mm needle jets. For first time ever the plug came out with no soot, still black on the outer electrode but deep brown on the centre electrode. Also the bike pulled as I had expected a 4 stroke single to do. The carb needle is at its lowest, weakest mixture notch, so a careful eye will be kept on carb colour in case it suddenly chucks up and risks the valves.

The original rear light Perspex inserts had been boded together in the housing with nasty orange gasket goo. They are now properly in place with super glue. The feeble rear light was due to the use of a clear bulb. Replacement with red is comforting as modern traffic does not appreciate how slow this bike is. Side stand spring zip tied unobtrusively in place to stop it twanging off. Footrest rubbers replaced with correct type. Seat front mount holes in cover plugged and left unbolted to give rear swing opening access to air box and inlet trumpet.

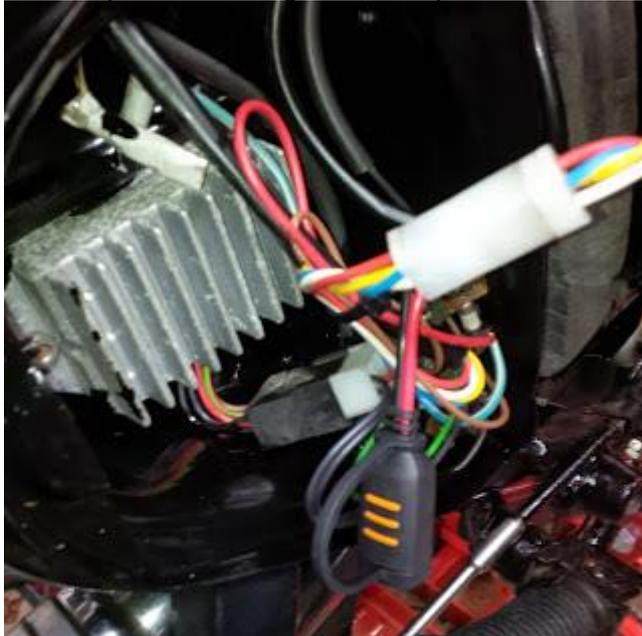
All fuel hoses replaced.

Wiring contents of battery box untangled and zip tied out of the way.

Before tidy up



Battery box wiring tidied up and secured + trickle charger socket wired in



Push fit Battery lead terminals securely mounted

Solid state box securely attached to box lid with industrial Velcro

Trickle charger socket wired in

Battery box door lock retaining tab modified, courtesy of lump hammer and hacksaw, so that it now remains closed when underway rather than springing half open.

Replaced original glass 25 Amp fuse with modern spade type. I do not want to hit a pot hole and end up stranded due to a broken glass fuse.

Fitted complete new exhaust pipe and long cigar shaped silencer for that East German look.



The original pipe was dented and the silencer did not silence plus it rattled. Upon close examination, courtesy of the angle grinder cutting it in half, it was revealed that it only contained the end piece baffle and no other internals. It was welded back up together with the loose baffle firmly in place but it was LOUD and dented so it had to go.



And the silencer contained...nothing

Jobs to look forward to.

Replace toolbox lid lock with 16mm cabinet lock that will at least match the surviving lock on the battery box.

Remove wheels and see what is inside brakes.

Clean and paint undersides of mudguards.

Clean and paint inside of tool and battery boxes inside rear wheel arch plus anything else under there.

Still running rich so awaiting arrival of compression tester, needs 105 psi, to find out if worn piston is letting fuel/air mix out and oil up to cause lack of puff and sooty plug.

Personally I do not care for over restored Christmas tree bauble bikes. I was in bike dealers, Redhill Motors in Brighton and Pride & Clarke in Brixton to name a couple and shows at Olympia and Earls Court as the 50s turned into the 60s and know that bikes did not look like that. The reasons are that 2 pack paint had not been invented plus modern preparation and chroming techniques had also not arrived. New bikes looked new but did not scream bling at you.

I think the patina of age is great which is why I have only touched in paintwork with Hammerite black gloss using water colour paint brushes.

This a a bike from East Germany where consumer considerations were non existent so this is what a careful owner there may have done at the time.

One of my favourite details on the bike is the underside of the petrol tank. This model is the home market version as evidenced by the flat grey paint on the side of the tank. Export models had the wonder that is chrome. The underside of the tank speaks volumes for the Soviet era in which it was made. The spray was just flashed over and is unfinished at the centre, after all what did it matter under there ? I love it just like this.

What is it worth ?

After the reunification of Germany in 1990 all things ethnically German became highly prized and collectable. The Simson 425 Sport is exactly that. Today in this condition in Germany I am told it is worth around Euros 10,000.



