



The First Speed 20 the SA 19.92 h.p.

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Period advert for the standard Charlesworth SA Speed Twenty saloon. This appeared in September 1932 and the car is a heavily re-touched artists impression from a photograph; it has early 1932 doors with angular front shut lines and the 1933 rear end shape! Just to complicate matters, the image is reversed; the spare wheel is normally carried on the left side! This is probably chassis 9406, KV707, the first Charlesworth saloon with the early 'flat' radiator, a Works car. Saloon production did not begin until July 1932 by which time the factory had organized coachwork supplies to take advantage of the market for a 'sports saloon'. This body style had been around for some years but had only been a small niche market until post Depression, saloon coachwork could be produced for less of a premium than in the past. Gone were the high chassis and tall body styles of the 1920's to be replaced with a low, double-dropped frame, low-slung mechanicals and sporty coachwork styles. The engine was much more powerful giving a distinctly sporting performance. These cars became fashionable within a season. Simplicity as well as good handling and speed ensured the success of these new Alvis models.

The SA was marketed in London by Charles Follett, as a '100 MPH Chassis' although 90+ mph from the 87 bhp @ 3500 RPM was more typical; still a fantastic performance from what had been a touring engine in earlier models. Dunham, who used a stripped version for racing got a lot more out of his tuned version on the track at Brooklands.



The prototype SA 20. This is the first chassis, 9184, VC9605 built October 1931 with an experimental Cross & Ellis sports body prior to public launch, at which time the model was still known as the 'Silver Eagle Sports' and even became the 'Silver Dart' for a short while until the name 'Speed Twenty' was settled on. This car was clearly intended as a serious sporting machine! Note the small mechanical wiper motor. The double-dipping headlamps were not specified for production. This car was later re-bodied by the Works with a Charlesworth FHC and re-registered with KV1577 before being sold.

In standard form, acceleration and top speed were not matched until the 3¹/₂ Litre Alvis was introduced in 1936. The Speed Twenty sold very well in its first full season (1932) with waiting lists and was continued with minor modifications for the 1933 model year. The later SB Speed Twenty with independent front suspension and a synchromesh gearbox, planned for the 1933 model year was held back for a season. The first batch of 126 chassis were all sold by July/August 1932 and with orders tumbling in, a further batch of 200 was sanctioned to continue sales for 1932 and to provide for demand in1933. This sanction was sold by June/July 1933 and a third 'top-up' batch of 25 was sanctioned to satisfy demand until the new SB model was announced in October 1933 at the Olympia Show. The SA chassis, designed by Arthur Varney was an all-new affair loosely based on a late Silver Eagle, cranked down just before the bulkhead and back up again to cross the rear axle. Thus the bulkhead and body was correspondingly lower and some rather nice low and sporty coachwork designs were adopted. These were aimed at the new sports car market niche that several manufacturers had created; S.S., Invicta, Lagonda and Alvis were the big boys with M.G., Singer and others there with their smaller versions. The chassis have proved very strong over the years and some formed the basis of powerful racing specials with engines much larger than the original. The SA was the first Alvis chassis supplied with a full size allov bulkhead for the coach builders as a firm base for their bodies. The curvature of the chassis over the rear axle is inclined to stretch and return a little on heavy bumps. Although causing no problem with the frame itself, it can cause cracks and splits in the roofs and rear decks of certain styles of coachwork, notably twodoor designs. The cure for coachwork cracks is to make the cracks into flexible joints by carefully making an overlap with a bead of sealer between the two surfaces before painting. This problem must have come to the attention of the designers because from the SC Speed Twenty onward, all Speed models have a heavily modified chassis with a bolted 'fish-plate' to hold the chassis rigid under each side where the rear axle passes through the side members.

Experience has shown that the chassis will require rebuilding after many years service. When restoring my SA the chassis had suffered accident damage so it was necessary to take it to a specialist for alignment. It was during this work that some rusty and loose rivets were investigated. When some of them were cut out it was discovered that their drillings had worn oval, concealed by the rivet head; only one thing for it - the whole thing was taken apart and a lot of rivets and their drillings were found to be quite badly worn. It was no wonder that there were some curious noises, the steering wandered and the body creaked! Today the benefits may be felt as the car is beautifully 'taught', even on severe bumps. Rivets heads must be hammered over red-hot; this ensures that the two heads tighten strongly on to each surface as they shrink during cooling. Nuts and bolts cannot work this way and must not be used. The chassis lubrication system relies on a centralized Luvax Bijur system where oil is squirted to the various parts of the steering, suspension etc by means of a pedal-operated pump. This was OK when the cars were new and was a great selling feature for the salesmen as their clients needed less frequent visits to the garage for greasing. In practice, as soon as one joint or another took a bit of wear the oil dribbled out leaving another part of the system starved and all sorts of wear would take place very rapidly if not sorted guickly. Mr Luvax must have got a nice salute from Mr Shell as most of his lubricant, appropriately named 'Swanshot' ended up on the road or the garage

floor... The system looks good but the oil lubricant is not as good as proper chassis grease. I replaced most of my oil points with period greasers and do them with the gun; now the Luvax only looks after the centre of the car; the pedals and the clutch shaft.

The SA uses a hotted-up version of the late 20HP Silver Eagle engine; its roots were in the 14.75 model of 1928. It was fitted with a completely new, higher performance cylinder head with larger S.U. carburetors to give it more oompf. The cylinder head, designed by Andrew Kemp, had improved breathing characteristics with rectangular porting, quite different from the Silver Eagle head with its circular ports. Kemp had joined Alvis from Ricardo's, a well-known engine development company; one of his earlier tasks was the design of the overhead valve conversion to turn the 12/40 into the 12/50.



A general under-bonnet view of the author's SA 20. The vertical black tube on the right of the bulkhead is the fuel reservoir to keep a head of fuel in the float chambers. When new, the Speed Twenty was intended to promote quality with its well-finished engine parts and plated pipes under-bonnet. Following the successes of the Twelve-Fifty and Silver Eagle it had a lot to live up to. This engine is fitted with a later Silver Crest valve cover.

Kemp's 'hot-head' design for the Speed Twenty was carried forward and used on all Speed Twenty, SG Silver Eagles and Silver Crest models and the general design principles of the porting and combustion chambers were adopted for the larger engines too. However, the Works did not want owners of Silver Eagles converting their engines to the later design and cleverly or otherwise, altered the stud pattern for the block and head to prevent easy interchange of parts!

It is important to visit and rebuild all the elements of these engines at overhaul

time; simply re-grinding the crank, making new bearings and fitting new pistons is unlikely to restore oil pressure when hot and will not get rid of background engine noises that accumulate after years of service, poor quality lubricants, misuse and probably sixty years of neglect in some areas. Comprehensive overhaul is expensive but well worth the cost and effort as the engine will run smoothly and quietly for a long time afterwards, especially with modern lubricants. Main areas to watch are the valve lifters in the crankcase, timing chain, comprehensive oil pump overhaul and timing chain tensioner sprocket and dowel renewal. This will improve oil pressure; it should be set down to 45 lbs/sq at 2000 rpm hot. Anything less, *except* at speeds lower than 2000 rpm, means something has been forgotten or the cooling system has problems. Higher pressures of 50/60 psi are not good; they may 'lift' the white-metal bearing material if the crankshaft is undersize and cause extra and unnecessary wear to the oil pump.

When attempting to improve oil pressure, do not be tempted to restrict the oil flow to the valve rockers – a liberal supply of oil flowing over the head is highly desirable and is a secondary heat transfer process in addition to the water cooling system. It will be seen that the excess valve gear lubricant is guided by channels cast into the head to flow in a certain way down the side of the block to reach the oil feeds to the camshaft bearings. The remainder, descends to be cooled in the oil pan. The oil channels in the head also cool the two siamesed exhaust ports as they pass across the otherwise uncooled pushrod chamber; these ports run at a higher temperature than the others because of their dual function.

In badly maintained or long service engines the camshaft oil feeds are sometimes totally blocked with debris that has fallen from above; this may be in the form of carbon from roasted oil from the exhaust ports and detritus such as rag, nuts, bolts and washers! This debris is very difficult to remove effectively as there is no proper access and this may be the reason that later designs were fitted with removable tappet chest covers.

The original cranks and connecting rods were designed for a limit of 4500 RPM although the maximum BHP was reached at a more conservative 3800 RPM. 3000 RPM is enough today unless you fit a new crankshaft and connecting rods. The SA has a shorter stroke at 100mm compared with the later 2.7 litre when it was increased to 110mm but neither are really suited to high revolutions. Metal fatigue is the problem with 80+ years old reciprocating parts and no amount of 'reconditioning' will improve their strength. Never go below the standard crank re-grind dimensions; to do so means the white-metal in the connecting rods will be too thick and will squeeze out at high revs under pressure and will cause a dramatic and expensive failure.

The pinch-bolt method of retaining the gudgeon pins in the connecting rods has always been a weak point and if new rods are contemplated, they can be made without the pinch-bolt as modern gudgeon pins may be cold-shrunk into non-bolted little-ends.

Overhaul of reciprocating components must be followed by careful electronic balancing. This should include crankshaft, connecting rods, pistons, flywheel/ clutch assembly/clutch plate and the crankshaft vibration damper.

A word of warning if you are contemplating a spare crankcase; there were three different crankcases fitted to the SA and they are not interchangeable without their original front and back covers: - Early up to Engine No 10348, Intermediate from Engine Number 10349 up to Engine Number 10512, and late from Engine Number 10513 to the end of production at Engine Number 11075. From Engine Number 10513 onwards the crankcase is the same as for the SB Speed Twenty. Obtaining a spare crankcase is useful if it is in the Engine Number range of your original. If not you must make sure it has the original front and rear covers. The rear cover is actually a matched pair and a non-original pair may fit but will probably leak oil. These covers are almost impossible to identify correctly as they are not marked with part numbers. If you need a spare motor, better to find one complete and fully assembled. There are a number of bolts and dowels that are also differing for each type but these are relatively easily manufactured. The Parts Catalogue indicates the change points clearly. This is important as these differences transfer to the clutch bell-housing part numbers as will be seen in the clutch section further on.

A modern oil filtration system with a spin-off filter element may be added quite easily at overhaul time. The main oil feed pipe from the pump must be cut and diverted through the crankcase side linked by Aeroquip flexible pipes to a remote filter head assembly. This may be fixed away from the motor on the chassis in such a way that the filter element is in the cool airstream, acting as a sort of oil-cooler. It's easy then to do a quick filter change at the same time as the oil change.

As there are no new cylinder blocks, we have to preserve what we have and I prefer re-sleeving the bores with new pistons rather than re-boring and running new pistons directly on the bores. Apart from saving blocks from eventual scrap, re-sleeving gives a harder wearing surface for the pistons to work in and, barring a catastrophic failure, allows renewable bores for the future.

The works foundry had developed a clever technique enabling them to cast cylinder blocks with hardened cylinder bores within a more malleable mix for the block casting giving them a longer life than usual at that time. Arthur Varney related that, in error, a block might occasionally become over-hardened in places other than the bores and it played havoc with the thread borers in the machine shops.....

In the Works Service Department, provided the pistons had not been allowed to wear too much, a set of new rings was often enough to restore compression and reduce oil consumption followed by new pistons later. This was great but in the later service lives of these cars outside the dealer network they were often re-bored going through the hardening and bore life was much reduced. At that time they did not have replacement thin-wall liners as we do today.

Today replacement pistons rings have been troublesome with some makes being incompatible with the steel of the sleeves. After using several British and foreign makes that caused high oil consumption and loss of performance, I eventually settled for an American brand with great success.

Valve trains are often ignored in 'budget' rebuilds and need to be carefully overhauled to give the correct valve and ignition timing as well as silent operation. The early camshaft, although 'pepped-up' was machined using the earlier Silver Eagle leader ramps; they could be slightly noisy at idle. Technology moved on and for the 1933 cars, a modified shaft with new 'quietening-ramps' was introduced. It's important to overhaul the tappets in the crankcase; most are badly worn; it's a waste of time fitting an expensive new camshaft without renewing the tappets and their blocks as the cam lobes will strike the tappet at the wrong angle. Tappet blocks have been re-sleeved providing you can get the lifter suitably hardened but manufacture of new items is usually the best solution. A lot of clatter in old engines may be traced to this area. Likewise worn timing chain sprockets and the output bearing transmit their din to the outside of the engine along the auxiliary shaft.

It is important to be sure an engine retains its original valve cover; the Works marked each one individually with the correct valve timing to suit the camshaft fitted. The dimension is not the same for all cars and there appears not to have been any record of these dimensions on the Build Records so be careful! If a new camshaft has been fitted at any time the original timing may well be different anyway and the only way to be sure is to do a full set-up using a D.T.I. gauge. Today vernier timing sprockets are available to enable 100% perfect timing.

The exhaust system on the SA is fairly straightforward with a 50mm/2 inch down pipe leading to the front of the silencer. The silencer is of tube style, small diameter and should fit as high up as possible *without touching any part of the chassis,* compactly between the chassis cross members with the front pipe passing through the cross member to enter the silencer. The first insulated mounting should be positioned just in front of the cross member. The tail pipe may be of 45mm/1¾ inches to allow back-pressure for the best efficiency. Rear mountings vary but must always be of the rubber-insulated type to prevent noise and vibration. Later SC cars were fitted with a quieter four branch exhaust manifold with centre exit whereas the SA has a front exit manifold that gives that distinctive exhaust note.

The fuel system is straightforward; a little header tank was fitted supposedly to maintain fuel levels in the carburetors overnight for an easy start. This rarely works unless the needles and seats are new and churning to get the AC pump to fill the carburetors gives the batteries and starter too much to do.

Better to fit a concealed electronic pump with a switch to fill the carburetors for a fast start with the AC pump taking over for general running. The electric pump can sometimes help running in tandem with the AC pump if vaporizing problems occur.

Vapor problems are usually caused by restricted cooling passages in the cylinder block and head. These must be dismantled entirely and sent for a professional chemical cleaning process; flushing with high street chemicals with the engine assembled are not sufficient. Flushing products will sometimes move detritus from the block into the fine passages in the honeycomb radiator block..... Be careful when selecting a cleaning specialist to make sure they are familiar with the castings that may be a bit thin after eighty years of corrosion as these processes are quite invasive.

The original triple choke linkage is hopeless in terms of getting the jets to settle properly back on their seats with those silly little return springs. Fitting beefier springs simply makes the things too stiff to open..... My first solution was to fit the choke system from the later SC20/25/4.3 engine. This works better but does have its own problems in old age with valve seating problems giving the same symptoms.....

I found the best solution was fitting the SU electric choke from a Three Litre – this works very well, is pretty discreet and gives automatic fast idle. I added jet turn-screw adjusters to the three carburetors from the later cars for easy mixture adjustment and this avoids readjusting the original choke linkage every time..... I just hated messing with the original system; it cost a fortune in re-bushing links and never worked effectively for long. The displaced parts are packed in a box in the garage for the next keeper....

The balance pipe across the three inlet tracts needs watching. Be



A close-up of the S.U. electric choke installation. As a non-original feature, it installed as discreetly as possible. With the adjustable jetting and air inlet, a fast idle on choke is useful. It does not require the mixture diffusion tube in the balance pipe as specified in the midperiod choke system.

especially suspicious if it is smartly chrome plated; the platers polishing process will often reduce the diameter or the tube so it will not seal with the normal gaskets on its three saddles. This can lead to all sorts of poor running and non-starting troubles. If the tube diameter is suspected, a nicer job may

be made with a length of stainless tube; it polishes nicely and is much stronger. Remember, if you use the choke system from a later Speed model, the balance tube must be fitted with a mixture diffuser tube inside for even mixture distribution during the choke/starting phase.

Resorting to opening the bonnet and spectacularly flooding the carburetors for a quick start may be spectacular to onlookers but is highly dangerous as fuel inevitably drips over the exhaust down-pipe. This is dangerous with the increased volatility of modern fuel and is not a very Alvis-like procedure..... I know of two cars that have caught fire this way.....

Make sure the fuel pipe to the float chambers is arranged so that the three inlet pipes rise up to the float chambers from below, not from above with the fuel descending. I have seen cars where they have been reversed; this is likely to give problems in a fuel vapor situation when hot. When the pipes rise to the float chambers, any air or vapor inside will rise naturally to air in the float chambers instead of being trapped above.

A sophisticated alloy heat shield will improve vapor problems from the hot exhaust manifolds below the carburettors. The first thing is to cut the three inlet stubs away from the exhaust manifold. These combined manifolds were an old idea known as a 'hot-spot' to aid fuel vaporization in the pre-war days of 70 octane fuel in winter conditions. It's totally unnecessary these days with modern fuels and can be a nuisance in hot weather.



14 inch electric cooling fan. This is the size of equipment required to cool these engines under continental summer conditions if the car is to be enjoyed without unwanted stops. The fan must of a type with the blades enclosed in a housing and fitted as close to the core as possible. Any air spaces around the fan frame will allow air to be drawn in from the sides of the fan frame.

Grind away enough material from each inlet tract to give the maximum air gap. Be careful – the thickness can vary from casting to casting. A heat shield may be made up from fairly thick alloy dividing most of the inlet stubs from the exhausts in a neat, effective way.

The clutch is an Alvis design, a carryover from the Silver Eagle, with its linings fixed to the flywheel and pressure-plate assembly rather than the driven plate, as in the modern fashion. The clutch/flywheel assembly is very heavy so take care when you are handling it! It's this excessive weight that makes for slow gear changes on the lower ratios as it takes a long time to lose its momentum and slow the driven plate enough to make an upward change. If unexpectedly decelerating in first gear its better to de-clutch to avoid the flywheel pulling the car against the brakes. I knew a case once where someone did not de-clutch in this situation, relying on the brakes; the flywheel momentum from 3500 revs pulled him straight into the next vehicle in front with the front brakes fully locked!



A close-up of the inlet manifold heat shield. It is made up from 3mm alloy and carefully surrounds each of the three inlet tracts separating them entirely from the adjacent exhaust outlets to give maximum heat shielding. Together with clean coolant jackets and the correct specification radiator, there are no problems even idling in traffic lines for an hour or more in 30 degrees C ambient temperatures. An electric cooling fan is fitted and ensures a good air-flow over the intake system in hot conditions.

The driven plate is a steel disc made from saw-steel with radiating cuts with 'sets' curved in such a way as to give a primary initial take-up during engagement. Beware – the plate is detachable from its shaft and it is possible to reverse it in error. If this has happened, it will give rise to the most severe clutch engagement and judder. If the clutch is slipping with good linings, it's curable by replacing the pressure-plate springs. These springs lose their effectiveness if the linings have become worn and excessive slip allowed to continue; the heat generated de-natures the springs very quickly.

Clutch adjustment is carried out in two ways. Initial adjustment is achieved by turning the turnbuckle below the clutch pedal to restore the correct pedal clearance from time to time; over-adjustment or under-adjustment either way

will make gear engagement from rest impossible. When this adjustment fails to give good disengagement, it will be necessary to adjust the pressure plate by removing shims to restore the simple adjustment at the pedal. The shims are behind each of the pressure plate bolts and are accessed through the open area at the top of the bell-housing. The shims are removed by loosening all the bolts a few threads then undoing each bolt and removing each distance piece one at a time followed by tightening and pedal adjustment as previously described. N.B. Make sure the distance pieces do not drop inside the clutch... If there are no shims, the clutch is half worn and someone has been there before you!

A heavy and unfeeling clutch is usually caused by wear in the three 'fingers' that connect the thrust pad to the clutch assembly and in the thrust itself where they work. They wear on the spherical ends and they must be built up with weld, ground to shape and hardened before re-fitting. The pivot points and 'feet' also wear allowing the fingers to twist. This is not good as inevitably one or more will break. The broken finger cannot be mended and replacements will have to be found or made. It is easiest to make a new thrust pad rather than attempt to build up the spherical holes for the fingers.

When obtaining spare parts, the clutch bell-housing was superseded twice along with the clutch inside. It is important to watch the part numbers if you can find them as mixing the differing sets will cause clutches not to work properly. The first bell-housing was up to Engine Number 10305. The second from Engine Number 10306 to 10516. The third was from 10517 to 10550 and then the second bell-housing was reverted back to from Engine Number 10551 onwards! So watch out!

The engine is coupled directly to a simple unsynchronized four-speed Alvis gearbox. It replaced the remote three and four-armed box with right change from the vintage era. This central-change box is simple in design with constant mesh for the lay-shaft and third gear. It has one unconventional feature; engagement of top and third gears by sliding the main shaft back and forth inside the front constant mesh input shaft gear and the 3rd constant mesh gear and engaging by dog clutches at each end. This curious but clever idea allows engagement of third gear via a small number of large splines at each end of the mineshaft with lead-ins rather than the conventional method of engaging numerous straight-cut teeth on a gear wheel. The small number of splines makes it easy to 'feel' engagement allowing rapid changes from third to top at high road speeds in an almost clutch-less manner. The speed of gear changes varies in proportion to the temperature of the oil in the box – the hotter the box, the slower the change. This is because the less-viscous lubricant inside the box has less drag on the gears when hot.

The weakness with these boxes is loss of teeth from the double-helical gears on the constant mesh input shaft. There are several reasons for this:- initially the gear speed chosen was too high causing premature wear to the hardening of the teeth; then there was debris circulating and becoming trapped in the double helical wheels. Wear will also increase in the input shaft bearings; when this gets to the point of a little 'play', the helical teeth run out of line and deteriorate rapidly. The engine end of the input shaft is supported in the back of the crankshaft in a bush and if this becomes worn, it will also allow the shaft to move adding further movement between the constant mesh gears in the box.

The shortcomings of the box were recognised early on and replacement constant mesh gear sets with slower speeds was introduced; one only has to take a look at the parts catalogue to see the complex gear-set supersessions. The changes reduced the wear problem but not the damage from debris due to driver error. Originally these boxes were intended for a lighter Alvis that never reached production and were really a stop-gap until something better was designed. Today replacement parts are once again available and gears must be changed in full sets.

The all-synchromesh gearbox that followed was developed in 1932 by the ubiquitous Arthur Varney. Although ready for 1933 model year, it was held back as it was decided that the SA Type would continue with its original box for another season as the car had sold so well. For 1933 the original box was updated with a clutch brake. This improved the driver experience by reducing



One of the 26 pre-production cars with the flat radiator. Chassis 9433. KY5089. These early cars were allocated chassis numbers interspersed between 12/50's, 12/60's and Silver Eagles. Early cars were eagerly sought after as used cars in 1932 and many were updated with the later, fashionable 'V' radiator. This was expensive work as not only was the scuttle narrower on these early cars, but also the front of the bonnet.... the tiresome clutch pressure plate adjustment and first gear engagement. In the interval, many of the surviving cars have had gearbox transplants so you may need to know if you have a 1932 or 1933 gearbox installed. This can be difficult as the boxes and bell-housings may have become mixed as the bell-housing is separate. First try to match the gearbox number with the Build Record. If this does not provide a solution, it is necessary to see if the gearbox front shaft leading into the clutch is fitted with a small brake drum close to the front of the box. To do this you must look into the opening on top of the clutch bell-housing with the aid of a dentists mirror and strong light. Many cars have a removable wooden panel in the bulkhead casting to make this easier.

If your gearbox slips out of top gear, the cause is usually wear in the forward slider splines where they engage inside the input constant mesh gear. As a bodge, the splines may be filed a little to reduce their acquired taper and this works for a while but replacement of the shaft is the real answer.

1933 versions were fitted with a pad of sound-deadening material on the gearbox top cover (!) and an extra adjustment wheel protruding through the floor on the left side front at the clutch bell-housing. This wheel is a simple adjustment to bring the clutch thrust to the optimum position to 'clear' drag on the clutch plate without the necessity of the pressure plate adjustment previously described. The 1933 bell-housing is also fitted with an adjustment rod with lock-nuts protruding on the left front side. This is the clutch brake. There is a small brake shoe inside the bell-housing, mounted on a stalk that makes contact with the brake drum previously described. Adjustment may be varied to give more or less braking effect and can, with perseverance, give rapid upward gear changes and quicker engagement of first gear when hot from rest.

Here's the awkward bit; cars with 1932 crankcases must not be fitted with 1933 bell-housings (with clutch brake) as the clutch withdrawal mechanism will not work properly. It may be observed that the timing cover on the rear of 1932 engines is considerably narrower than on 1933 onward engines. This means that the 1933 withdrawal mechanism starts action from too close to the clutch unit. (the 1933 SA engine with 'wider' timing cover was carried through to the later SB series Speed Twenty). 1932 and 1933 gearboxes are dimensionally the same; is OK to fit a 1933 gearbox to a 1932 bell-housing provided the 1932 withdrawal mechanism is retained.

For the driveline, these cars were originally fitted with early, non-needle bearing Hardy-Spicer shafts with the joints covered by metal shrouds. These shafts are difficult to overhaul as there are no bearings available and the straight-bushed parts have to be made. The cost of this is pretty staggering and a better solution is to fit a complete modern H.S. shaft assembly with needle roller bearings. Whilst a little originality is compromised, the thing is out of sight and the improved length of life is impressive compared with the older type. The later needle roller type may also be overhauled with bearing kits at home in the garage bench vice. Take care with this as incorrect alignment of the 'spiders' will, at best give imbalance and worst, total seizure! If you want to do this and avoid a mistake, talk to someone who knows how to do it.

The rear axle is strong with fully-floating drive shafts that may be removed without even taking the wheels off although the shafts are very strong and unlikely to need replacement in the normal course of events. The fully floating method is useful if the axle gears require removal since the differential and drive gears may be removed without removing the axle or even taking the rear wheels off! It is important to know how good the differential/crown-wheel carrier bearings are; if worn, they give little indication, but the crown-wheel and pinion gears are in grave danger of failure and losing teeth, usually under heavy acceleration. This is because under heavy accelerating loads, the worn bearings may move fractionally allowing the teeth to move slightly out of alignment and if this happens, off comes a tooth or two and your axle gears are scrap. This is expensive; if the condition of the bearings is unknown, always have the axle stripped and all the bearings replaced as a matter of course unless they are found to be new.

A final word on axles; with the availability of alternative axle gear-sets, some folk like to step up the ratio a little to lower engine speeds on motorways. I have not found this satisfactory as these engines were never designed to run at constant high speeds, particularly uphill for long periods; motorways have very long uphill sections that can be several miles long and maintaining speeds puts undesigned strains on these engines, particularly the cylinder head and especially if a head has been repaired. I tried a 4.3 ratio in my SA20 but I never really found it satisfactory all round; there is always the problem of finding the correct gears for the speedo drive and the loss of low speed flexibility spoilt this pleasing Alvis characterisitic. I reverted to the original 4.5 with great pleasure. If your engine is in good condition all round, the extra few hundred RPM on a main road should not be a problem.

Road wheels do not normally come in for much comment: the SA is fitted with 20 inch wheels with 5.25/5.50 tyres. Whilst they physically exchange, the 19 inch wheels from all later IFS models are not suitable as the spoke lacing angles are different; The SB onward cars with IFS required a wider theoretical 'track' to accommodate the extra suspension parts and front spring so the wheel spokes were fitted with a much more pronounced 'cone' formation to bring the track back to standard. Watch out for badly corroded rims as the spokes can pull through and cause a dramatic collapse in extreme cases: today wheel specialists offer new rims of the correct pattern and new corrugated centres too. New wheel centres increase the life of the expensive corrugated drive plates. If you decide to treat the motor to new wheels, the number of spokes may be discreetly increased from 60 to 72 per wheel giving a longer wheel life and less stress under heavy cornering. The outer edges of the wheel rims are tubular and corrode inside, especially with cars that may have lain outside for long periods of time. These rims are drilled to let humidity escape but these small drillings are often clogged with paint....The corrosion that forms inside may seriously upset any efforts to balance the tyre/wheel

assemblies and the only proper answer is to replace the wheel. Some owners fit oversize tyres and this is not good. The usual reason is that the availability of the correct 5.25 X 20 tyres is limited to one or two makers and 5.50 or even 6.00 X 20's are often less expensive than the 5.25's. There is also the current macho trend where owners like to make the wheels look chunkier. In all cases the extra weight of oversize tyres increases un-sprung weight and may give severe wheel-shake problems with certain road springs.



Chassis 9896, a 'standard' 1932 Cross & Ellis Sports formerly registered as OJ1556. This car was one of a pair bought new by the brothers Stone who kept them for years, appearing at AOC events in the 1960's. The brothers had consecutive chassis and Registration Numbers! It is believed this car is in South Africa.

Stick to 5.25 X 20.

Brakes were a development of the late Silver Eagle cable type with Smith-Clarke's patented floating compensator and unequal shoe springs introduced in 1930. This was a clever solution to the age-old problem of uneven wear that occurs on the leader of a pair of shoes. 'Mr Alvis' cleverly reduced this by confusing physics and rotating the pair just under ninety degrees on the backplate and making the trailing shoe act as a leading shoe and by heavily spring -loading the leader away from early contact forcing the trailer to make the first contact. This had the combined benefits of smoothing out the initial application, preventing shoe rattle and spreading the wear more evenly between the pairs of shoes as the first gentle application is used the most.

This action allowed for less frequent adjustment and friction-free compensation between each pair of shoes during operation in such a way that virtually no bearing surfaces are used in compensation, only fulcrums. Shoe expanders had traditionally been a classic point of friction, difficult to lubricate and prey to rapid wear in earlier designs where the compensator turned in a bearing or slid in the back-plate. The compensation of Smith-Clarke's brakes directly onto each shoe was never bettered, in my opinion until post-war designs caught up fifteen years later where shoe-links or pairs of hydraulic cylinders provided true two leading shoe brakes.

The SA has the delightful feature of an interior hand-wheel adjustment for the footbrake, so useful for adjustment without even stopping the car! The system works via the older and rather crude vintage style cross-shaft compensator. It is intended to apportion the theoretical 60% front and 40% rear effort to the brakes; however, the slightest amount of uneven wear at either end of the shaft can upset compensation; this is usually due to more wear being taken at the pedal and handbrake end of the shaft; regular removal and overhaul of the shaft, handbrake mechanism and its crude bearings is a necessity to maintain even braking. Always check on the operating angles of the cable levers to make sure they pull the cables from the point of best mechanical advantage. It is essential that the brake shoe swivel pins on the back-plates are in top condition and nicely shimmed to avoid contact with the drums. It may be necessary to re-bore and sleeve the shoes to regain the contact angle.

Adjustment should follow the advice in the Driver's Manual; I would only add that the closest adjustment possible is needed at each wheel with the backplate adjusters to centralise the shoes. Failure to centralise the shoes properly, can leave one shoe in each drum inoperative. Centralisation must be done with the interior hand-wheel adjuster turned fully anti-clockwise to its fullest extent. For good brake 'feel' and progressive braking, the cables should be removed, cleaned and re-greased every year regardless of mileage.

Some brake drums have been 'skimmed', often many times and are not the correct diameter for the shoe curvature. This will cause unending problems with uneven braking, uneven wear and glazing of the linings. If this is diagnosed, new drums are the best answer although I have successfully had some sleeved back to standard. The difficulty here is selecting a suitable quality of iron for the liner. There are alloy drums available from specialists and these are great (thin steel liner inside) and reduce the un-sprung weight. Next time you service the brakes, weigh the cast iron shoes and drums and it will shock you!

SA 20's were originally fitted with alloy brake shoes. They are great as they save an enormous amount of un-sprung weight and reduce spring bush and shock-absorber wear. Many of these shoes are in rough condition due to careless rivet removal in the old days and need careful repair. Many owners reverted to using replacement cast iron shoes in the early service lives of the cars; it's still possible to track down individual alloy shoes. I needed a set and it took me three years around the Alvis autojumblers until a full set was put

together. The only slight disadvantage with alloy shoes is that they are inclined to squeal more readily with the correct soft linings. With lining replacement, make sure your specialist knows to fit extremely soft lining material – most modern vehicles use hard linings for longer life as their power servo systems overcome the extra effort needed to give stopping power. The catalogues today no longer list lining material for cars of our age. I used to ask for material suitable for milk floats as they were not equipped with brake servo's and used very soft material but I doubt that milk floats even exist today..... To avoid further damage to battered alloy shoes, new linings may be fixed to the shoes with adhesive in the modern manner avoiding the need for rivets and their subsequent removal. You also gain the slightest bit of lining area where the rivets used to be!

Steering and suspension systems are relatively 'vintage' and straightforward to maintain. After over eighty years of service some elements have worn beyond the makers boring sizes. King-pin bushes are inclined to be a loose fit into the axle due to wear in the original drillings after possibly a dozen overhauls. Best way here is to check diameters carefully, bore the stubs to ensure truth and have made up, a set of steel sleeves to suit your axle and stubs. Then the standard sized components may be fitted. It is important to check the angle of the beam drilling and stubs so as not to alter the basic steering geometry; to do so would upset the steering characteristics.

The steering box is a Marles-Weller 'O' Type. It was considered one of the best developments at the time for its clever anti-friction properties and was fitted to several makes of quality car at a time when lady drivers were having more influence in a cars specification. Low friction (in the box!) was achieved by spacing the contact surfaces between the cam and roller with tiny hemispheres ensuring a constant self-alignment. The box works very well and takes a lot of 'weight' out of the steering, but is tricky to set up as the hemispheres have to be ground individually and repeatedly trial-fitted for accuracy. They talk about 'Hell's Confetti' when describing the fitting of adjusting valve shims on Alvis Front Wheel Drive engines – the hemispheres on the Marles-Weller are even smaller and in a more confined space – one needs the services of a mid-wife to fit them....

In later life, most steering boxes have some wear in the central part of the cam (worm) where it has been in use in the straight-ahead position. Be careful not to over-adjust the hemispheres for close clearance here as the box may lose its clearances and tighten up dramatically towards each lock when the car is driven in hot weather and sometimes even the engine heat will do the same making the ahead position 'sticky' and unpleasant for accurate control. Same goes for the column bearings.

If you have the box out for maintenance, its a good idea to have a machine shop cut into the end of the output shaft housing behind the drop arm and fit a modern oil seal to replace the original felt seal; you will have less oily mess on your right front wing and garage floor. The output shaft bushes wear as well and are a simple job to remove, replicate in a lathe and ream to size. Check the shaft diameters as well for truth as it is no use fitting a worn shaft with new bushes.

These steering boxes have been known to suffer from cracked shafts and failures are not unknown.

The AOC made arrangements for replacement shaft kits to be manufactured and these are still available. Some folk have their original shafts crack tested and re-fitted if cleared OK. However, the original shafts had a design fault and will crack eventually – it's only a matter of time so a replacement is a must if you want to stay safe. One final point – the hand controls that pass through the stator tube; the ignition advance and hand throttle *should* be fitted with a ratchet to retain the selected adjustment - it is *incorrect* to equip the lighting control in the same way. The lighting control is equipped with its own detents within the switch to set the lighting and half-charge positions without the need for a ratchet.

Road springs wear and droop. They must be replaced in axle pairs to avoid an unwanted list to port or starboard. Rear spring specifications varied according to the weight of the coachwork; saloons required stiffer rates compared to the lighter sports models. The number of leaves was the same on both types, only the rates being different. Before copying what is fitted to your car, remember it is possible it has been fitted with the wrong springs in an earlier life!

If you like modifications, some of the spring shackle bushes may be replaced with Silentbloc bushes. These eradicate the regular and irritating lubrication and fast wear to the spring eyes and bushes and improve the ride quality and handling. This is because the hysteresis of the rubber in the silentblocs reacts with the compression and rebound of the springs. Basically it brings the leaf suspension up to the immediate postwar standards when these bushes became commonplace. It's a simple matter to make up fitting and extractor tools.

The original Andre shockers are very reliable and easy to overhaul. Adjustment of the rears is trying due to their inaccessible location across the axle when attempting adjustment on the road away from the workshop. Replacement all round with small hydraulic units fitted outboard improves the ride and handling enormously at the expense of originality. If this is to be contemplated, very strong brackets and large and well-fitting bolts are required to prevent them working loose. Ideally the brackets should be riveted.

The low design profile of the car required a high capacity radiator to cool the beast! Correct radiator overhaul is very important and a good firm is needed to rebuild to the original specification. The honeycomb block should be made in two sections to create the 'V' shape with a 'wet-box' at the bottom to allow coolant to pass around the crank handle passage. Cheap repair jobs

sometimes blank out the block above and below the wet-box and cooling capacity is severely reduced in warm weather or extreme conditions because a significant part of the radiator is doing nothing. Make sure in addition that the side casings of the radiator are blocked off as intended otherwise the coolant will follow a path around the side of the radiator avoiding the cooling block. Coolant will always take the easiest path as there is a resistance to passing through the fine core of the honeycomb.

There should be a sprung ball valve on the overflow pipe in the header tank just under the filler cap. This was normally a stainless steel bearing-ball with a brass or copper spring underneath set to blow-off at about 2.5 psi. This allows the cooling system to run a few degrees above boiling in extreme conditions with less coolant loss and prevents embarrassing loss through the overflow pipe when stationary after a fast run during heat soak or when parking on steep slopes. The radiator cap must have a good rubber seal to prevent pressure loss.

Higher cooling system operating pressures must be avoided due to the limited sealing qualities of the adjustable packings in the water pump. The packings may be adjusted by means of the castellated collar at each side of the pump. The cars were supplied with a small size 'C' key in the tool roll to fit the adjusters. The packings must not be over adjusted; just enough to stop leakage is correct. This leaves a reserve of adjustment for maintenance for the life of the packings. If a leak re-occurs and adjustment fails, the packings should be removed for inspection to see if they are dry of lubricant and to check if the pump shaft is worn or scored. A worn shaft may be built-up and re -ground but this does not give a long life – it's hardly worth it. A new shaft and packings are required; a worn shaft will very quickly, tear up new packings.

The pump may be modified by replacement of the antediluvian Crane packings with ceramic seals. These are very reliable and require no maintenance. To carry out this conversion requires machining the pump body and deleting the castellated packing adjusters and this may offend those who like originality. Expert fitting and setting up is required as these modified seals are quite small yet must have enough range of radial movement to allow the pump shaft to run slightly out of line at times because it has no bearings; it also delivers drive to the dynamo and magneto and there is only limited radial control from the chain coupling. It also has to cope with variable resistance from the dynamo depending on its load.

Electricity comes from a *Lucas C5A Type BU1* three-brush generator. I have not yet discovered if this generator was fitted to any other cars, but the suffix 'BU1' indicates an application specifically for the Alvis Company. As it was driven directly by the engine timing and running at ¾ engine speed, it was designed to produce its output at a relatively low speed, for a longer life than, say, the more common set-up driven by a fan belt at high speed.

With a safe maximum output of 8 amperes, this output; very low by today's

standards, was typical for its day and may be reduced to a trickle to avoid overcharging on long runs by operating the 'Half-Charge' setting on the steering wheel mounted lighting switch. This brings a shunt winding (resistance) into operation, in effect, like a miniature electric fire element that crudely uses up the excess output to the field windings of the generator. The little metal-topped box with ventilation holes housing the shunt winding sits atop the dynamo where the charging leads emerge. If in working order take care, as this little box becomes extremely hot in use and may give your finger a nasty burn!

It is possible to increase output from the dynamo up to 10 amperes or so by moving the adjustable third brush. This is not recommended as these early generators without voltage control produce more and more volts the faster they turn and being unventilated and with elderly and unreliable 'Shellac' insulation have no overheat tolerance. The windings will burn out very quickly. There is no regulator with this system, just a simple cut-out on the fuse box. The cut-out is there to separate the charging circuit when the generator is below charging speed or stationary to prevent the battery voltage trying to make it 'motor' and destroy itself.

The Speed Twenty was carefully designed to operate electrically within its 8 amperes safe charge capacity. A minimal electrical consumption was ensured by the use of magneto ignition, an engine-driven A.C. fuel pump, a gearbox-driven mechanical screen wiper and a non-electrical fuel gauge. So, with everyday driving during daylight hours virtually all of the generator output was available for charging the batteries as the ignition coil was only used for starting and the magneto generated its own sparks independently for normal running.

In those days, after dark, with a single 5w tail lamp (legal at the time!), 2 x 5w sidelights, two headlamps at 36w each and a dipping solenoid, the generator output was sufficient to balance the load and even allow a surplus. By making use of the single dipped beam only, relieving the solenoid of consumption, progress could be made and leave you with the possibility of sufficient in the battery for a cold start the next morning.

Even the instrument lighting may be turned off to save electricity as there are two 5w bulbs behind the fascia! Another vagary of the three brush generator is that on restarting the motor the next day, the charge voltage is only equal to that left in the battery from the previous run so if the battery was run down, recharge by the generator will take hours of driving to eventually restore the battery voltage. There maybe one or two of you who remember driving around in these *bolides* as everyday cars in the early 1960's, early morning peasouper fogs with headlamps like glowworms and using the crank handle for starting.....

There is an easy way to check on the current consumption of the equipment in the car. Simply list the bulbs with their wattage and divide by twelve, the voltage of the system. This result is the amperes consumption of that list and this figure should not exceed the 8 amps generating capacity of the original generator. See the chart below for the original standard car.

1 X Tail light.5 watts.2 X Side lights10 watts.2 X Headlights72 watts.1 X Dip solenoid.5 watts.Total92 watts divided by 12 (volts) = 7.6 amperes.

That is only just enough to 'balance' the generator output. By running on a single dipped beam it cuts the consumption a lot, viz:-

1 X Taillight5 watts2 X Sidelights 10 watts1 X Headlight 36 watts<u>0 X Solenoid</u>0 wattsTotal51 watts divided by 12 (volts) = 4.25 amperes.

This shows that with careful use of electrical capacity, an SA can be kept running electrically indefinitely with the lights on provided some thought is given to maintaining a healthy surplus of amperes to charge the battery and it will keep the lights burning brightly! However in today's world, motor-cars sometimes need more electricity.

Another of the problems with the original charging system on the Speed Twenty today is that it is often insufficient for the extra electrical loads that owners and specialists sometimes impose on the cars today. I have seen SA's with double SU electric fuel pumps, sports ignition coils, failed magnetos running on coil ignition, double dipping headlamps, twin supplementary driving lights, twin motor electric screen-wipers, flashing indicators and up to four or even six 5w bulbs around the rear lighting area! It was not until the 1935 model year with the SC Speed Twenty that CVC (Current Voltage Control) and 15 amp generators were introduced allowing the use of more electrical equipment and automatic control of battery charging.

There are solutions to increase the electrical output for these cars. The easiest is to do away with the third brush and rewire the charging system with a CVC regulator box. This enables the dynamo output to be increased to about 10 amps fairly reliably as the regulator cuts back the output automatically. A better alternative, it you can find the parts, is to fit a later ventilated Lucas generator and CVC control system from a Speed Twenty five. A discreet modification that will give up to 18 amps. I have seen another installation where someone managed to mount a generator and control system from a late Three Litre giving 30 amps. It is also possible to fit an alternator belt-driven from the vibration damper but the installation looks terrible. Electrical equipment overhauls should accompany every engine rebuild.

When these cars were new, they were designed for twin six-volt batteries in steel frame carriers each side of the prop-shaft under the rear seat. At the time the double batteries gave longer charge duration when generator output was so critical. Today with modern high capacity batteries it is possible to run with a single twelve-volt compact battery. This enabled me to box the spare battery rack and use it for additional storage. Others fit an extra 12 volt battery for extra capacity.

The coil and magneto ignition system needs looking after and the BTH CED6 system on these cars needs careful maintenance. The magneto and changeover switch are badly located both for access and humidity problems; water spray from vehicles in front attacks them through the radiator. Later cars had fewer problems when the later vertical JD magneto was fitted further toward the rear of the engine in a warmer and drier position. Later SB Speed Twenties were fitted with a smart alloy water shield on the front of the magneto behind the radiator and this is a great improvement that is easily fitted to the SA20.

The main problem with the CED6 system is loss of spark through HT leakage. This is usually deterioration of the rotor shaft inside the magneto and the carbon brush arrangement in the changeover switch. Both should be stripped and cleaned annually. Correct adjustment of the carbon brush contact inside the changeover switch is critical. As the switch is directly connected to the ignition switch with a long tube, it gives less trouble than later cars where the linkage can become mal-adjusted and burn out the contacts in the switch. This usually renders the switch scrap and originals are not easy to find.

I believe reproduction HT switches are now available. Better to replace the switch and the magneto rotor shaft to avoid damp starting problems. When setting up the ignition timing don't be tempted to over advance the ignition firing point; there is no performance to be gained with a standard engine and the rough running will only wear the engine bearings. Over advance may leave insufficient retard for starting purposes with the very real possibility of damage to the starter motor. The full advance at 43.5 degrees should be achieved with the hand control in the fully advanced position, not part way round the quadrant and make sure the link train from steering control to magneto is in good order, well lubricated and both advancing and retarding sufficiently. It only requires one little lever assembled the wrong way round to alter the range of movement and cause severe problems. Because the magneto is a four-spark unit, the amount of radial movement on the operating levers to advance or retard the spark is quite small.

The Rotax starter motor works in a pretty hostile environment. Situated low down in a casing that is not waterproof, it can collect a lot of water from the right front wheel in bad weather and if the engine is worn, excessive oil from the back main bearing may be sprayed over it by the flywheel. The original Bendix drive is designed with a small circular hair-spring to draw the pinion back from the flywheel when not in use. This is usually missing due to wear in

the device so it becomes necessary to 'flick' the starter button to push the pinion away from the flywheel where it may set up a chirping sound. The starter motors are easily damaged by over advancing the ignition timing and this will sometime break the alloy nose-piece and at worst, the main shaft. Being a weak point, these starters are difficult to find so it's a good idea to look after the one you have! Replacement Bendix drives and nose sections are available.

There are two designs of instrument panels, the 1932 style known as the 'FT78', typical of those from Silver Eagle days with small speedometer and revolution counter. The panel for the 1933 model year is known as the 'FT82' and is for the cars with the larger 5 inch instruments. The original Hobson combined fuel and temperature gauges in one unit are easy to maintain but difficult to overhaul. The fuel gauge relies on a small diameter brass tube leading to an 'air' unit inside the fuel tank. There are no working parts. Providing the tube, connecting gauge and tank unit has no leaks, feeding some specialist coloured fluid in the top of the tubes on the back of the gauge usually work. These gauges require the car to be in motion with the fuel sloshing around in the tank for an accurate reading. They must not be over filled. Calibration is a matter of trial and error and adding small lengths of fuse wire into the head of the gauge to get the reading to match the tank contents. I make it sound easy – it takes some practice and its better to under fill than over fill as it's very hard to get the fluid out if too much is added..... I am not sure if this fluid is still available as it was listed as carcinogenic years ago but I have seen cars with 'new' fluid so there must be a product around.

I had enough with the unreliability of both units on my early SA and converted the fascia gauge to a dial temperature gauge from a later car. This left no space for the fuel gauge on the fascia so I fitted a modern, low current consumption electric fuel gauge with a sender in the tank in place of the old Hobson tank unit. This may be switched on when required. The actual gauge is located somewhat inconveniently behind the drivers seat in the panel below the back seat cushion where it may be read when stationary by tilting the seat -back forward.... I did not want to highlight non-originality by adding it to the fascia.

Inaccurate and low-reading speed and revolution instruments can usually be overhauled by specialists. I find that the usual problem in both units is wear in the brass collar that rises centrifugally and pushes the needle around the dial; it may be removed quite easily by a good clock mender and re-worked to get the full size back and regain accuracy.

The original Smith's cable-driven screen wiper is a great asset, very small and neat on the lower edge of the screen and does not restrict your view when the screen is folded down. The drive cable shares the speedo drive output from the tail end of the gearbox in a tiny dual-drive gearbox. It's own rotating cable (like a speedo cable) runs across the bulkhead on the engine side, inside and up through a drilling in the scuttle panel and into the wiper unit. The greatest

asset is that the wiper blade speeds up as you drive faster and slows to a halt at a traffic light! It needs dismantling and greasing from time to time and the same for the cable although do not over-grease as you may end up with grease in your lap...... The gears in the wiper mechanism do wear and sometimes need to be re-manufactured. They are simple gears and may be reproduced in a local gear shop set up for small items. A useful adjunct is to find an inline cable dog-clutch unit fitted on some Silver Eagles; it may be installed with a small hand control to disconnect the drive cable when not required. This avoids unnecessary drive-cable wear when the wiper is not in use.

To compete within their niche in the market standard coachwork and prices were offered throughout the dealer network. A standard coach-built body could be made in semi-series production with big cost savings due to overcapacity in the coach-building trade as the industry rationalized post depression and it provided the coach-built quality of feel that the Alvis buyer expected.

There were two 'factory' designs to a standard works format; sports bodies by Cross & Ellis and saloons by Charlesworth, both Coventry makers local to the Alvis works. Then there were the 'London' styles organised and marketed by Charles Follett, the London Alvis Distributor. He also understood the financial benefits of series production and was able to exert pressure on the London coachbuilders to obtain exclusive designs at the right price. Vanden Plas in particular were suffering from overcapacity following the collapse of the original Bentley firm following the Great Depression. Most of Follett's bodies were Vanden Plas and Mayfair Carriage although there were many bespoke individual styles as well, a peculiarity of the London market.

From launch there was no 'standard' Works drop-head coupe, this being a relatively novel body design in 1932 and sales were passed to Follett in London for his Vanden Plas design of which he sold forty five up to the end of 1933. For 1934, the factory, having underestimated the potential for this style, then offered a 'standard' Charlesworth DHC on the SB Speed Twenty.

The Cross & Ellis sports and Charlesworth saloons conformed to fashion for the two Model Years of the SA20. The 1932 Cross & Ellis sports tourers were quite vintage with a single cut-away on the drivers door only, with coach-style pouches on the three other doors with a big flap and turnbuckle. Front doors were front-hung and there were no running boards. For the 1933 update they were changed to rear-hinged doors with cut-aways on both, long, styled map pockets inside replaced the pouches and running boards ran through from front to the rear wings. The boot was very small, being mainly for side-screen stowage and there was the option of top or bottom-hinged lid for use as a luggage rack if required.

1932 Charlesworth saloons had a very obvious angular front bottom to the front doors with boot access with two lids. 1933 Model Year rounded out the

leading edge of the door bottoms and there was a more curvy, less angular rear end shape with single boot lid and the front wings lost their 'skirts', later reinstated on the SC model for 1935!



The Author, with Clarissa, his SA20 chassis 9802 and Patricia his other wife laughing uproariously at his failed attempt get into first gear silently in front of an audience. This is the first production Vanden Plas sports, an early 1932 car with the 'small' doors.

1932 Vanden Plas open sports models had rather small doors with cute angled shut lines set high in the vintage style with the lower edge of the body running continuously front to rear below the doors. The boot was accessible from behind the rear seat with no external access, 1933 Model Year bodies had deeper doors 'cut-through' to the running boards with the body sill behind the closed door and the boot was accessible through an ingenious exterior boot lid equipped with a sliding section of boot floor to close the gap between lid and boot floor when carrying a trunk on the lid in the open position. Saloons for both years had less obvious changes with the angle of door shut lines becoming less vertical and ending with softer curves at the front lower edge. Vanden Plas coupes were available either as drop-head or fixed head with similar lines and style modifications as the saloon for the two model years. Cross & Ellis coachwork is constructed with steel panels over an ash frame and Vanden Plas were mostly alloy over ash. After 80 years of use most bodies will need an overhaul and this usually means the panels must be removed to access the frame to make repairs or replacements. I found that most wood frames have a re-useable content and this saves money during overhaul as well as preserving originality as far as possible. The big skill for a body repairer is to fabricate wood repair sections that allow the original panels

to be re-fitted after repair. Today, with modern welding processes the alloy and steel panels are easily repaired and sections may be let-in. Where the original is too badly corroded or battered to be re-used, new parts have to be made.

The ash frames need to be looked at very carefully at the lower sections of the rear quarters as many have been damaged through minor accidents and bumps. Rear bumpers only became standard much later. 'Parking' damage usually 'breaks' the rigidity of the complex multiple wood joints causing unwanted movement and lack of strength. If ignored, this will lead to panels cracking and squeaks. The most likely rot points are where vertical timber such as door pillars meet horizontal beams; these joint always retain moisture and the old favourite, the sunroof drain tube area in screen pillars.

Ideally large body panels are best cut into smaller sections for removal as they are easier to handle during wheeling and trial fitting. It also avoids leaving large amounts of frail alloy in danger of collapse; a full roof and rear deck alloy skin section is too cumbersome for trial fitting purposes. Many of the sections are easily welded in situ with modern welding processes and careful protection to the wood underneath.

If the spare wheel is mounted on the tail or boot lid as on Vanden Plas cars, it is important to check the condition of the mounting; at some point it's bolted through structural timber and it must be strong. Alvis spare wheels and tyres are heavy; you don't want one of those falling off at speed!



A Vanden Plas saloon photographed when new at the Vanden Plas Works before dispatch, probably a 1933 model. Note the painted 'slave' wheel transit nuts, removed before dispatch. These were popularly known as 'Straight-backed' saloons and Follett sold 28 of them. With the boot lid open, the extending boot floor to carry a trunk may be ascertained.

The 1932 body is stronger as there is no boot lid; the 1933 style has a boot lid with the wheel bolted through in the same way but the whole relies on the integrity of the hinge to frame structure so this style needs very strong repair. Cross & Ellis bodies have the spare wheel side-mounted directly on the chassis so have less worries in this area; their panels are steel giving better torsional strength and the boot lid is relatively small and non-structural, so gives less trouble. Don't be tempted to weld the lower back panel into place; it's intended to be removable as the fuel tank has to pass out that way when required....



Thought to be Chassis 10189, a 1933 Vanden Plas semi fixed head coupe ALW648. This was a Follett development of the DHC where the back of the roof was fixed. This was the 'Sandeman' car and thought to have been abandoned in the Bordeaux area by an escaping honeymoon couple. They fled across France to the west coast on one of the last boats to leave for Blighty at the beginning of WWII. Relatives have asked for more information. Wouldn't it be a great if it had survived? Any Alvis-sleuths in that area?

Doors can be a little tricky to repair as the outer panel usually has to be uncrimped from around the frame. Sometimes the crimp breaks away, but no matter, if the main form of the panel is good, a new crimp edge is easily welded on. The panel is crimped over a simple steel rim screwed around the main door-frame. This rim usually needs replacement as it weathers badly having usually suffered from both water and electro interaction between it and the alloy panel. Make sure to seal the rim against further interaction from the panel before re-crimping with an insulating medium.

Wings and running boards are fairly straightforward to repair, some are steel (easier) and some are alloy. It is usually necessary to cut an entire strip off the



Another coachwork variation; the author's 1933 Vanden Plas two seater. Chassis 10158, AGU241. The first owner, Lester Matthews, a minor Hollywood star used the car at Brooklands and later took it to California and used in it some early horror movies, the most prominent appearance of the car being in Universal's 1935 production of 'Dracula's Daughter'. This Alvis was one of a team of three two seater SA's sponsored by Charles Follett supposedly to storm the Alpine Rally. Originally named 'Wanderer II' it had been re-christened with 'Annie' by the time she came to me.

outside of the wings and running boards to remove corrosion. If this is necessary, it enables the beaded wire & rolled strip to be eliminated and replaced with a discreet ninety degrees flange to avoid the original rust trap. Never have new wings made unless it's absolutely unavoidable as they are never the same as the originals. The originals were formed from small, wheeled sections welded together over formers and this is the only way you will get a wing to the original shape. It's expensive as you will need two formers so the opposite hand will be a good match! Some London coachwork wings and running boards are alloy and were often fitted with crude under-wing guards to prevent dents to the softer alloy from flying stones. This may explain the presence of sundry fixings on the underside of the wings as the guards are often missing.

An irritation is the frequent absence of the front valance between the dumbirons under the radiator. Back in the bad old days of furred-up radiators, some owners erroneously removed the valance to aid cooling. This valence was fitted not only to tidy up the front of the car, but to scoop the maximum quantity of air into the radiator block; without it, a large flow of air is diverted by the natural resistance of the honeycomb block, passing unused underneath the car. The cars appear slightly 'undressed' without this essential styling feature. It should also act as the carrier for the front registration plate hanging below and avoids the need for bolting it through the front chassis cross-member. Such fixings may also divert essential air-flow from the radiator. A word or two about headlamps; from the introduction of the Speed Twenty the positioning of headlamps on all Alvis models was an intentional and integral part of the 'brand' that each car was intended to conform to. The SA20 was carefully designed with its crossbar and lighting positions, in scale with the physical size of the frontal aspect of the car. The headlight brackets should be fitted immediately to the insides of the vertical crossbar supports. The plated bracket that the lamps are fixed to should be fitted with the mounting *behind* the crossbar. Of course, if someone has assembled them the wrong way round, the crossbar has to be removed to reverse them. Crossbars were originally painted, not plated.

Put P100 lamps on an SA and they immediately look out of scale. Two or three cars were so fitted originally by Special Order, but they had their front wing lines subtly altered to adopt the style. All later Speed models from the SB onwards had their styling modified to accept P100 lamps. The standard headlight for the SA is the Rotax K596/11. This code was the Rotax/Alvis reference with the Alvis name in the centre of the tripod. They were later manufactured under the Lucas label (Lucas had acquired Rotax in 1927) and the K593/11 became the P.80 but without the tripod.

The SA20 was a good seller and 350 were sold in two seasons. The best seller was the Charlesworth saloon:- 95, second:- 65 Cross & Ellis sports, third:-57 Vanden Plas sports, fourth:- 46 Vanden Plas coupes, fifth:- 28 Vanden Plas saloons and finally there were 20 'chassis-only' for which we have no information. The remaining 39 made up bespoke orders among coachbuilders such as Mayfair, Thrupp & Maberly, Grose, Arthur Mulliner, Carbodies, etc, etc.

The SA20 is a little '*brut*' as Alvises go but it is the most compact and lightest Speed Twenty straight from Arthur Varney's drawing board with few alterations and few frills. This was before the sales & marketing departments moved in adding all the extra bits of weight with subsequent model-year addons!

Crunch-crunch - Pip-pip - Brum - Brum - Zoom!

Nick Simpson.

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ALVIS SA 19.82 SPEED TWENTY REGISTER

This was the first Speed Twenty, developed from the Silver Eagle of which 350 were sold between October 1931 and October 1933 when it was replaced with the SB type. The Speed Twenty was a huge sales success; it was conceived and the first one was running in fourteen weeks. This was in response to a disappointing sales performance with existing models at the 1930 London Show. Destined as an 'interim model' for a season, it was continued for a second season as it was so popular.

Whilst the numbers of standard bodies, ie Cross & Ellis sports and Charlesworth saloon numbers are definitive at 61 and 93 respectively, Charles Follett in London took 'chassis only' for the most part and arranged his own coachwork. Some of his bodies are unknown. We have accounted for 56 Vanden Plas sports, 29 Vanden Plas saloons and 45 Vanden Plas coupes. The biggest importer of chassis was Martin & King of Melbourne, Australia who constructed 4 handsome saloons and one sports.

In the 2015 census there are 111 survivors world wide of which only 7 are saloons showing the preference for open cars for classic Alvis motoring! The cars marked with an asterisk in the register are the known survivors.

111 known survivors as at 20157 x saloons (red), survive at December 201418 x chassis only, coachwork unknown at December 2014

Nick Simpson 2015.

ISPATCH	BODY DET AIL	CHASSIS	CAR NUMBER	ENGINE NUMBER	BODY NUMBER	REGISTRATION	ORIGINAL COLOUR	SALES DEALER
10.31	Cross & Ellis sports	9184		EXP 1.6	30205	VC9605	Green	Works car
09.32	Charlesworth FH coupe	ditto	14565	9760	12261	KV1577	Grey & Red	ex Works
11.31 *	Bertelli FH coupe	9268	14120	9743		VC9453	Black & Cream	ex Works
12.31 *	VDP 4 seat sports	9335	14174	9758	1753	GX3453	Black	Follett,London.
01.32	Cross & Ellis sports	9336	14213	9759	30209	AG7232	Green	Galt,Glasgow.
01.32 *	VDP 4 seat sports	9364	14192	9761	1760	GW84	Green	
02.32 *	Cross & Ellis sports	9383	14216	9762	30210	GG5657	Red	Galt,Glasgow.
.01.32 *	VDP 4 seat sports	9384	14196	9765	1761	FG7503	Black	Follett,London.
.02.32	Cross & Ellis sports	9385	14217	9766	30206		Black	Hallam,Birmingham.
.07.32	Charlesworth saloon MKI	9406	14278	9769	12092	KV707	Green	Works car
02.32	Cross & Ellis sports	9407	14233	9773	30207	KV198	Green	ex Works
02.32 *	Cross & Ellis sports	9408	14250	9774	30211	KV1070	Green	ex Works

Follett,London.	Hallam,Birmingham.	Works car	Thompsons, Hull	ex Works	Works car	Galt,Glasgow.	Galt,Glasgow.	Waterhouse Bradford	Merlyn Motors Bristol	Galt,Glasgow.	Follett,London.	Follett,London.	Follett,London.
Nile Blue	Black	Black	Sage Green	Green	Green	Black	Black	Green & Black	Bowser Blue	Black	Black	Blue	Fawn & Red
GW4131	OV7706	KV701	RH4986	KV709	KV1071	FS2601	GG6085	КҮ5089	WO6281	KV1068	GX4725	GX4729	SB4005
1775	30213	30208	30212	30215	6757	30216	30214	30217	B179	30218	1762	1781	1780
9777	9780	8778	6776	9787	9776	9788	6876	6793	9792	9894	9806	9807	9814
14224	14275	14271	14304	14365	14393	14351	14313	14349	14266	14370	14270	14283	14285
9414	9423	9424	9425	9426	9427	9431	9432	9433	9435	9436	9437	6447	9454
VDP saloon	Cross & Ellis sports	Cross & Ellis sports	Cross & Ellis sports	Cross & Ellis sports	Carbodies saloon	Cross & Ellis sports	Cross & Ellis sports	Cross & Ellis sports	Cross & Ellis FH Coupe	Cross & Ellis sports	VDP sports	VDP saloon	VDP coupe
29.01.32	14.03.32 *	27.07.32 *	08.03.32 *	11.08.32	12.04.32	26.03.32 *	15.03.32	06.04.32 *	16.04.32	09.04.32 *	25.02.32	02.03.32	04.03.32 *

СН	BODY DET AIL	CHASSIS	CAR NUMBER	ENGINE NUMBER	BODY NUMBER	REGISTRATION	ORIGINAL COLOUR	SALES DEALER
	VDP sports	9455	14316	9775	1763	GX4979		Follett,London.
	VDP saloon	9801	14327	10251	1777	GX3457	Black	Follett,London
	VDP sports	9802	14333	10252	1764	PJ4888	Blue	Follett,London
	VDP saloon strt back	9803	14340	10254	1782	YY15	Blue	Follett,London
	VDP DH coupe	9804	14336	10253	1787	GX7800	Black & Silver	Follett,London
	VDP saloon	3805	14346	10255	1784		Black	Follett,London
	VDP saloon	9086	14354	10256	1785		Black	Follett,London
	Cross & Ellis sports	2086	14355	10257	30224	EV6024	Black	Bam/Lds
	Cross & Ellis sports	9808	14379	10258	30219	GN3394	Green	Follett,London
	VDP sports	6086	14360	10259	1793	GX1751	Blue	Follett,London
	VDP sports	9810	14359	10260	1792	GX3458	Grey & Red	Follett,London
	VDP coupe	9811	14367	10261	1788	GX8143	Black & Ivory	Follett,London
	VDP sports	9812	14371	10262	1794	KJ7069	Blue	Follett,London

Siddons,Nottingham.	n Dunham & Haines,Luton	Hallam,Birmingham	Works car	ex Works	Galts,Glasgow.	Galts,Glasgow.	Henlys, Manchester	Hallam, Birmingham	& Follett, London	n Hallam, Birmingham on	galts, Glasgow.
Black	Brow	Greet	Black	Black fabric	Blue	Blue	Greer	Black	Black Silve	Carme & Crimso	Red 8 Black
GY741	1 L	OJ1358	KV1572	KV1569	686955	GG7592	1031 XJ1031	KY4387			
30220	30221	30222	12237	B189	12240	12243	30223	30226	1789	12242	12238
10263	10264	10265	10266	10267	10271	10270	10269	10268	10272	10273	10274
14386	14383	14417	14421	14479	14481	14510	14514	14434	14376	14433	14466
9813	9814	9815	9816	9817	9818	9819	9820	9821	9822	9823	9824
Cross & Ellis sports	Cross & Ellis sports	Cross & Ellis sports	Charlesworth saloon	Cross & Ellis saloon	Charlesworth saloon	Charlesworth saloon	Cross & Ellis sports	Cross & Ellis sports	VDP coupe	Charlesworth saloon	Charlesworth saloon
19.05.32 *	02.05.32	07.05.32	01.06.32	27.07.32	21.05.32	31.05.32	31.05.32 *	14.05.32 *	20.05.32	20.05.32	13.05.32

DISPATCH	BODY DETAIL	CHASSIS	CAR NUMBER	ENGINE NUMBER	BODY NUMBER	REGISTRATION	ORIGINAL COLOUR	SALES DEALER
27.05.32 *	Cross & Ellis sports	9825	14420	10275	30225	KY2370	Green	Waterhouse, Bradford.
09.06.32	Charlesworth saloon	9826	14422	10277	12247		Green & Black	Hanna, Belfast.
26.04.32 *	VDP 2str sports	9827	14428	10278	1790	GY7179	Red & Black	Follett, London
26.04.32	VDP saloon	9828	14431	10279	1783	GX3459	Black & Cream	Follett, London
24.06.32	Charlesworth saloon	9829	14436	10280	12257	LV1530	Black	Watson, Liverpool.
17.06.32	Charlesworth saloon	9830	14447	10281	12235		Black	Watson, Liverpool.
06.06.32 *	Charlesworth saloon	9831	14463	10282	12280	SR8270	Grey	Galts,Glasgow.
03.05.32	Saloon - u/k	9832	14442	10283		KV2277	Black	ex Works
02.06.32 *	Cross & Ellis sports	9833	14468	10276	30227	KF9570	Black	Watson,Liverpool.
04.06.32	Charlesworth saloon	9834	14455	10284	12241		Blue & Black	Bamber,Southport.
03.09.32	Charlesworth saloon	9835	14464	10285	12252	OW2150	lvory & Black	Scott Motors Southampton

05.05.32	VDP coupe	9836	14457	10286	6621		Blue	Follett,London
05.05.32 *	VDP coupe	9837	14458	10288	1800	GY3980	Blue	Follett,London
09.07.32	Charlesworth saloon	9838	14477	10287	12245	GG7094	Grey & Red	Galts,Glasgow.
15.05.32	VDP 4 seat sports	9839	14470	10289	1795	GY3977	Green & Black	Follett,London
13.05.32	VDP 4 door saloon	9840	14473	10290	1807	GP7198		Follett,London
14.06.32 *	Cross & Ellis sports	9841	14490	10291	30228	RN2005	Black	Fordham,Preston.
20.05.32	Grose saloon	9842	14482	10293		AWB401		Grose,Northampton.
16.06.32 *	Charlesworth saloon	9843	14498	10292	12244	01690	Grey & Black	Hallam,Birmingham
16.06.32 *	Cross & Ellis sports	9844	14544	10294	30230	VE7424	Green	Turner & Hore,Newmarket.
24.06.32	Charlesworth saloon	9845	14513	10295	12251		Grey & Black	Owen, Birkenhead.
27.05.32	VDP 4 seat sports	9846	14505	10298	1797	GY4083	Blue	Follett,London
10.06.32	Charlesworth saloon	9847	14522	10297	12255		Black	Follett,London
01.07.32 *	Cross & Ellis sports	9848	14549	10296	30229	НҮ6195	Grey	Merlyn Motors,Bristol.
27.05.32	VDP 4 seat sports	9849	14499	10299	1796	GY3982	Grey & Blue	Follett,London

DISPATCH	BODY DETAIL	CHASSIS	CAR NUMBER	ENGINE NUMBER	BODY NUMBER	REGISTRATION	ORIGINAL COLOUR	SALES DEALER
12.07.32	Charlesworth saloon	9850	14526	10300	12237		Blue & Black	Galts,Glasgow.
02.06.32 *	Martin & King sports	9851	14527	10302		*CU166*		ex Works
01.06.32	VDP coupe	9852	14520	10301	1808		Black	Follett,London
01.06.32	VDP saloon	9853	14523	10304	1786		Black	Follett,London
04.06.32	Charlesworth saloon	9854	14532	10303		KV2288		ex Works
20.06.32	Charlesworth saloon	9855	14521	10305	12248	KV1575	Black	Henlys,Manchester
14.07.32	Charlesworth saloon	9856	14533	10306		JO4690	Black	City Motor Co, Oxford.
04.07.32 *	Charlesworth saloon	9857	14601	10307	12249	WJ4318	Black	Bambers,Sheffield.
15.07.32	Mayfair sport saloon	9858	14542	10308		KV1576	Green & Black	ex Works
23.07.32	Cross & Ellis sports	9859	14604	10309	30242	GY6969	Grey	Henlys,Manchester
12.07.32	Charlesworth saloon	9860	14612	10310	12256	WJ4499	Blue & Black	Bambers,Sheffield.

Follett,London	ex Works	Thompson, Hull.	Works car	Wessex Motors,Salisbury.	Works car	Watson,Liverpool.	ex Works	Follett,London	Follett,London	Turner & Hore,Newmarket.	Bloomers, Grimsby.	Follett,London
	Black & Red	Crimson & Black	Grey & Black	Blue	Black	Black	Blue & Black		Red & Black	Grey & Black	Green	Grey & Red
	GY9593	RH6076	KV2173		KV2166	UG949	KV1579	PJ7539	GY3986	VE8937		KS5546
		12246		12297	12258	12296	12259		1811	12254	30233	1812
10311	10312	10313	10314	10315	10316	10318	10317	10319	10320	10321	10322	10323
14551	14564	14562	14677	14580	14649	14571	14559	14569	14574	14598	14660	14600
9861	9862	9863	9864	9865	9866	9867	9868	9869	9870	9871	9872	9873
Chassis only	Mayfair DH Coupe	Charlesworth saloon	Mayfair sport saloon	Charlesworth saloon	Charlesworth saloon	Charlesworth saloon	Charlesworth saloon	Thrupp & Mab saloon	VDP sports	Charlesworth saloon	Cross & Ellis sports	VDP sports
13.06.32	10.08.32	05.07.32	29.10.32	23.07.32	26.07.32	22.07.32	08.07.32	21.06.32	22.06.32 *	17.07.32	16.09.32	30.07.32 *

DISPATCH	BODY DET AIL	CHASSIS	CAR NUMBER	ENGINE NUMBER	BODY NUMBER	REGISTRATION	ORIGINAL COLOUR	SALES DEALER
28.06.32 *	VDP sports	9874	14583	10326	1824	GY6949	Grey	Follett,London
29.06.32	VDP saloon	9875	14586	10327	1810	GY6967	Black	Follett,London
02.07.32	VDP coupe	9876	14588	10328	1809		Black & Silver	Follett,London
30.06.32 *	Arthur Mulliner coupe	9877	14589	10329		WM8100	White	Bambers, Southport
07.07.32 *	VDP sports	9878	14607	10324	1825	GY7063	Red	Follett,London
05.08.32	Charlesworth saloon	9879	14662	10330	12253		Black	Turner & Hore,Newmarket.
29.07.32 *	Cross & Ellis sports	9880	14613	10331	30237	0J1922	Black	Hallam,Birmingham
04.07.32	Chassis only	9881	14597	10332				Hallam,Birmingham
28.07.32	Charlesworth saloon	9882	14621	10333	12250	LG9464	Blue & Black	ex Works
16.01.33	Charlesworth coupe	9883	15035	10334	12271		Grey	Patrick Motors,Birmingham.
03.08.32	Charlesworth saloon	9884	14661	10336	12288	RH7401	Black	Thompson, Hull.

08.07.32 *	VDP sports	9885	14609	10335	1831	GY7177	Red	Follett,London
08.07.32 *	VDP coupe	9886	14611	10337	1827	KJ8452	Red	Follett,London
30.07.32	VDP sports	9887	14659	10339	1826		Brown	Follett,London
14.07.32 *	VDP saloon	9888	14615	10338	1813	YY2583	Black	Follett,London
12.07.32	Thrupp & Mab saloon	9889	14616	10340		GY7178		Follett,London
30.07.32	VDP sports	0686	14619	10341	1832		Black	Watson,Liverpool.
26.08.32	VDP coupe	9891	14645	10342	1828	GY2543	Black	Follett,London
26.07.32	VDP sports	9892	14646	10343	1836		Blue	Follett,London
15.07.32	Chassis only	9893	14620	10344				Follett,London
26.08.32 *	VDP sports	9894	14644	10345	1851	YY2582	Red & Black	Follett,London
30.07.32 *	Cross & Ellis sports	9895	14626	10347	30240	0J1555	Black	Hallam,Birmingham
02.08.32 *	Cross & Ellis sports	9896	14650	10346	30231	OJ1556	Cream & Black	Hallam,Birmingham

DISPATCH	BODY DETAIL	CHASSIS	CAR NUMBER	ENGINE NUMBER	BODY NUMBER	REGISTRATION	ORIGINAL COLOUR	SALES DEALER
24.08.32	Charlesworth saloon	9897	14672	10348	12286		Blue	Hallam,Birmingham
12.09.32	Charlesworth saloon	9898	14665	10349	12290		Red & Black	Watson,Liverpool.
24.10.32	Charlesworth saloon	6686	14791	10350	12289	KV2510	Black & Green	Works car
16.09.32 *	Carbodies racer	0066	14708	10325	6797	JJ3233	Red	Follett,London
29.07.32	VDP sports	10001	14657	10453	1850		Grey & Blue	Follett, London.
10.08.32 *	Duple saloon	10002	14666	10452		YY924	Brown	Waterhouse,Bradford
29.07.32	Chassis only	10003	14654	10451				Follett, London.
13.08.32	VDP coupe	10004	14671	10454	1856	YY2585	Red	Follett, London.
17.08.32 *	Thrupp & Mab saloon	10005	14673	10455		YY2991		Follett, London.
10.08.32	VDP coupe	10006	14668	10458	1857	YY2584	Red	Follett, London.
27.08.32 *	Cross & Ellis sports	10007	14674	10456	30244	LV579	Green	Watson, Liverpool.

22.09.32 *	Charlesworth saloon	10008	14678	10457	12292	013	Black	Hallam,Birmingham.
25.08.32	Thrupp & Mab saloon	10009	14684	10459				Follett, London.
16.09.32	Charlesworth saloon	10010	14680	10460	12298		Black	Hallam,Birmingham.
17.09.32 *	Cross & Ellis sports	10011	14685	10462	30243		Red & Black	Bambers, Leeds.
30.09.32	Charlesworth saloon	10012	14694	10464	12289	NV1768	Black	Central Motors,Kettering.
16.09.32 *	Cross & Ellis sports	10013	14697	10461	30245	0J2357	Two greys	Hallam,Birmingham.
31.08.32	Chassis only	10014	14689	10463				Hallam,Birmingham.
28.10.32	Charlesworth saloon	10015	14774	10466	12295	TF9355	Grey & Red	Aked, St Annes.
04.11.32	Cross & Ellis sports	10016	14823	10465	30246	KY3595	Grey & Red	Galts,Glasgow.
12.09.32	Charlesworth saloon	10017	14701	10467	12294	KV2171	Black	Ex Works
11.11.32	Mayfair saloon	10018	14833	10468		FV3098	Green & Cream	Aked, St Annes.
09.04.32 *	Martin & King saloon	10019	14702	10471				Ex Works

DISPATCH	BODY DETAIL	CHASSIS	CAR NUMBER	ENGINE NUMBER	BODY NUMBER	REGISTRATION	ORIGINAL COLOUR	SALES DEALER
08.02.33	Cross & Ellis sports	10020	14857	10469	30239	VH4973	Black	Bambers,Leeds.
23.01.33 *	Cross & Ellis sports	10021	14754	10470	30247	KV2508	Maroon	Ex Works
06.10.32	Charlesworth saloon	10022	14745	10472	12283	XJ3404		Henlys Manchester
03.09.32	Chassis only	10023	14695	10475				Follett, London.
03.09.32	Chassis only	10024	14696	10476				Follett, London.
08.09.32	VDP saloon	10025	14700	10473	1862	YY5618	Black	Follett, London.
07.09.32 *	VDP sports	10026	14699	10477	1852	YY2581	Blue & Black	Follett, London.
25.11.32	Charlesworth saloon	10027	14874	10474	12600		Grey	Galts,Glasgow.
09.09.32	VDP coupe	10028	14706	10478	1858	YY2588	Grey & Blue	Follett, London.
09.09.32 *	VDP sports	10029	14705	10479	1853	YY5581	Brown/ White/Red	Follett, London.
10.09.32	VDP sports	10030	14709	10480	1854		Green	Follett, London.

16.09.32	VDP sports	10031	14711	10485	1855	YY2586	Grey	Follett, London.
07.10.32	Cross & Ellis sports	10032	14730	10481	30235		Green	Church House, Bolton.
21.02.33	Carbodies saloon	10033	15142	10482	8109	UF9613	Drab & Maroon	Caffyns, Eastbourne.
17.09.32	VDP saloon	10034	14712	10484	1863		Blue	Follett, London.
16.09.32	VDP coupe	10035	14713	10486	1859	HY7278	Red & Grey	Follett, London.
02.11.32	Charlesworth saloon	10036	14788	10483	12601	YY2420	Black	Follett, London.
11.02.33	Charlesworth saloon	10037	15103	10488	12603		Blue	Hallam, Bir mingham.
04.11.32	Charlesworth saloon	10038	14808	10487	12284	YY2920	Black & Brown	Follett, London.
22.10.32	Cross & Ellis sports	10039	14749	10490	30249	JX285	Black	Waterhouse,Bradford
15.11.32 *	VDP sports	10040	14736	10489	1880	ALU453	Black & Blue	Follett, London.
27.09.32 *	Bertelli sports	10041	14729	10491		YY2337		Follett, London.
29.09.32	Chassis only	10042	14732	10492				Follett, London.

н	BODY DETAIL	CHASSIS	CAR NUMBER	ENGINE NUMBER	BODY NUMBER	REGISTRATION	ORIGINAL COLOUR	SALES DEALER
	VDP coupe	10043	14733	10493	1860	YY5582	Black	Follett, London.
	Chassis only	10044	14737	10494		D004446		Export
	Cross & Ellis sports	10045	15228	10495	AS 30	0J7199	Black	Hallam,Birmingham.
	Chassis only	10046	14741	10496				Follett, London.
	VDP coupe	10047	14790	10498	1886		Black	Follett, London.
	VDP coupe	10048	14739	10497	1861		Grey & Blue	Follett, London.
	Charlesworth saloon	10049	14756	10499	12282	KV2863	Black	Ex Works
	Charlesworth saloon	10050	14824	10501	12281		Grey & Blue	Follett, London.
	VDP coupe	10051	14750	10500	1887		Blue	Follett, London.
	Cross & Ellis sports	10052	14999	10502	30248	KV2170	Black	Works Car
	Charlesworth saloon	10053	14913	10503	12285	KV2865	Green	Works Car

03.12.32	Martin & King saloon	10054	14912	10504				Ex Works
14.10.32	VDP saloon	10055	14751	10505	1864	YY5588	Black	Follett, London.
13.12.32	Charlesworth saloon	10056	14810	10506	12604	US1034	Green	Galts,Glasgow.
15.10.32 *	VDP coupe	10057	14752	10508	1888	MV6348	Black	Follett, London.
14.10.32	VDP sports	10058	14901	10509	1881	YY4945	Black	Follett, London.
03.02.33	Charlesworth saloon	10059	15085	10507	12617	KV3893	Green	Works Car
22.10.32	VDP coupe	10060	14771	10510	1899		Grey & Blue	Follett, London.
22.10.32	VDP coupe	10061	14778	10511	1890		Black	Follett, London.
22.10.32	VDP coupe	10062	14784	10512	1891		Grey	Follett, London.
25.10.32	VDP saloon	10063	14787	10513	1865	YY5586	Black	Follett, London.
26.10.32	VDP saloon	10064	14793	10514	1866	016066	Red	Follett, London.
27.10.32	Thrupp & Mab saloon	10065	14799	10515		JJ4404		Follett, London.
08.12.32	Cross & Ellis sports	10066	14925	10517	30236		Green	Ex Works
20.12.32 *	Mayfair saloon	10067	14961	10516		XJ6396	Red & Black	Henlys Manchester

DISPATCH	BODY DETAIL	CHASSIS	CAR NUMBER	ENGINE NUMBER	BODY NUMBER	REGISTRATION	ORIGINAL COLOUR	SALES DEALER
03.11.32 *	Drophead coupe u/ k	10068	14813	10518		JJ3231		Follett, London.
28.11.32	Charlesworth saloon	10069	14829	10519	12602	£06LU	Two Greens	Ex Works
05.01.33	VDP sports	10070	14856	10520	1885	MJ1444	Black	Dunham & Haines, Luton.
03.11.32	Chassis only	10071	14816	10521				Follett, London.
11.11.32 *	VDP sports	10072	14837	10523	1883	JJ4679	Black	Follett, London.
17.11.32	Chassis only	10073	14809	10522		TK8586		Edwards & Hann,Bridport.
07.12.32 *	VDP sports	10074	14902	10524	1884	MG2269	Grey	Follett, London.
11.11.32	VDP sports	10075	14839	10525	1882	EV8741	Black	Follett, London.
09.12.32	Charlesworth saloon	10076	14869	10526	12605		Blue & Black	Hallam,Birmingham.
28.11.32	Charlesworth saloon	10077	14882	10527	12271		Black	Henlys Manchester
26.11.32	Charlesworth saloon	10078	14845	10528	12287	KV2864	Cream	Works Car

	Chassis only	10079	14826	10529				Bambers,Leeds.
Charleswort saloon	ч	10080	14859	10530	12609		Red & Black	Cripps,Nottingham.
VDP coupe		10081	14844	10531	1891	JJ5608	Blue	Follett, London.
VDP saloon		10082	14863	10536	1867	JJ66	Black	Follett, London.
VDP 2 seat spo	orts	10083	14831	10532	1791	FG8537	Cream & Black	Follett, London.
Charleswort saloon MKI	ч_	10084	15024	10533	12599		Two Greens	Henlys Manchester
Charleswort saloon	ч	10085	14853	10534	12293	JX478	Grey & Blue	Follett, London.
Charleswort saloon	4	10086	14865	10535	12249	UN6771	Black	Davies,Barmouth.
Charleswort saloon	٩	10087	14887	10537	12616	TJ324	Black	Timberlakes,Wigan.
Charlesworth	2	10088	14849	10538				Ex Works
Cross & Elli sports	S	10089	15010	10539	30241	KV2866	Green	Ex Works
Cross & Elli sports	s	10090	14919	10542	30234	SH4203	Fawn	Galts,Glasgow.
Charleswor saloon	th	10091	14993	10541	12611		Black	Bambers,Southport.

атсн	BODY DETAIL	CHASSIS	CAR NUMBER	ENGINE NUMBER	BODY NUMBER	REGISTRATION	ORIGINAL COLOUR	SALES DEALER
	Charlesworth saloon	10092	14886	10540	12610	WJ6462	Grey & Red	Bambers,Sheffield.
	VDP coupe	10093	14960	10543	1897		Green	Follett, London.
*	Charlesworth saloon	10094	14898	10544	12606	ARF471	Grey & Red	Hallam,Birmingham.
	Charlesworth saloon	10095	15084	10546	12612	KV3984	Black & Green	Works Car
*	Charlesworth saloon	10096	14922	10547	12613	TJ132	Black	Barton Townley,Lancaster.
	Charlesworth saloon	10097	14956	10545	12614		Two blues	Bambers,Southport.
*	Cross & Ellis sports	10098	14937	10548	30238	LV2200	Red	Watson, Liverpool.
*	VDP sports	10099	14905	10550	1908		Cream & Black	Follett, London.
	VDP coupe	10100	14903	10549	1895		Grey & Red	Follett, London.
	VDP sports	10101	14904	10551	1911		Grey	Follett, London.
	Charlesworth saloon	10102	15097	10554	12618	KV2869	Black	Works Car

02.12.32	VDP sports	10103	14906	10552	1909	AGC818	Blue	Follett, London.
01.02.33 *	Cross & Ellis sports	10104	15023	10553	30232	LJ6969	Green	Hartwell,Bournmouth.
10.01.33	Charlesworth saloon	10105	14992	10556	12615	APB964	Brown.	Follett, London.
25.01.33	Charlesworth saloon	10106	15046	10558	12662	FV3267	Grey	Bambers, Southport.
07.02.33 *	VDP saloon	10107	14959	10560	1921		Green & Fawn	Follett, London.
06.03.33	Charlesworth saloon	10108	15189	10557	12619	KV4025	Black	Ex Works
23.07.32 *	VDP saloon	10109	14986	10559	1922	JJ6963	Red & Black	Follett, London.
29.03.33	Charlesworth saloon	10110	15252	10555	12626		Blue	Wright,Norfolk
16.02.33	VDP coupe	10111	15063	10564	1896	VD2319	Apple Green	Follett, London.
29.12.32	VDP saloon	10112	14988	10562	1923		Black	Follett, London.
27.12.32 *	VDP sports	10113	14987	10561	1910	JJ6961	Black	Follett, London.
31.12.32	Chassis only	10114	15000	10563				Follett, London.
17.01.33	Chassis only	10115	15031	10565				Follett, London.

SPATCH	BODY DETAIL	CHASSIS	CAR NUMBER	ENGINE NUMBER	BODY NUMBER	REGISTRATION	ORIGINAL COLOUR	SALES DEALER
.33 *	Cross & Ellis sports	10116	15233	10568	30250	JV1850	Black	Bloomers,Grimsby.
.33	Chassis only	10117	15052	10567				Swallow Milburn,Sunderland
.33	VDP coupe	10118	15047	10571	1898		Maroon	Follett, London.
3.33	Thrupp & Mab saloon	10119	15091	10569	5608		Black	Ex Works
2.33	Charlesworth saloon	10120	15082	10570	12622		Grey & Red	Patrick Motors,Birmingham.
.33	VDP coupe	10121	15048	10572	1899		Black	Follett, London.
3.33	Charlesworth saloon	10122	15185	10575	12623	KV4129	Blue	Bambers,Southport.
.33 *	VDP saloon	10123	15049	10573	1935	AGF476	Blue & Grey	Follett, London.
3.33	Mayfair coupe	10124	15227	10574		TK8784	Beach Tan	Ex Works
2.33	Charlesworth saloon	10125	15141	10578	12621	FV7278	Black	Henlys Manchester
33	VDP sports	10126	15050	10576	1912		Le Mans Green	Follett, London.

Bambers,Sheffield.	Blue	WJ6593		10591	15286	10139	Mayfair saloon	14.03.33
Follett, London.				10588	15128	10138	Chassis only	18.02.33
Follett, London.	Black		1956	10590	15113	10137	VDP coupe	15.02.33
Henlys Manchester	Black		12624	10587	15135	10136	Charlesworth saloon	25.03.33
Weybridge,Reading.	Grey		12679	10585	15230	10135	Charlesworth saloon	19.04.33
Galts,Glasgow.	Blue & Black			10586	15136	10134	Mayfair coupe	11.05.33
Follett, London.	Black	KV5341	12679	10584	15190	10133	Charlesworth saloon MKIII	01.04.33
Follett, London.				10583	15104	10132	Chassis only	11.02.33
Hallam,Birmingham.	Blue	OJ6804	30252	10582	15212	10131	Cross & Ellis sports	11.04.33 *
Follett, London.	Blue		1947	10581	15077	10130	VDP coupe	08.02.33
Follett, London.	Black		1836	10580	15076	10129	VDP saloon	04.02.33
Follett, London.	Grey	LJ6967	1913	10579	15075	10128	VDP sports	04.02.33
Follett, London.	Black	AGT325	1900	10577	15051	10127	VDP coupe	28.01.33 *

DISPATCH	BODY DETAIL Mavfair saloon	CHASSIS 10140	CAR NUMBER	ENGINE NUMBER	BODY NUMBER	REGISTRATION TK8784	ORIGINAL COLOUR	SALES DEALER Follett 1 ondon
cc.20.c2	Maylali Salooli	10140	10140	ROCUL		I No/ 04		Γυμειι, Ευπαυπ.
23.02.33	VDP saloon	10141	15145	10592	1937	ALE246	Black	Follett, London.
12.04.33	Charlesworth saloon	10142	15216	10593	12771	CG6512	Red	Henlys Manchester
13.04.33	Charlesworth saloon	10143	15218	10594	12770	LV2066	Black	Watson, Liverpool.
28.02.33	Thrupp & Mab saloon	10144	15151	10566		VD3261		Follett, London.
20.04.33	Charlesworth saloon	10145	15279	10595	12680	GR92	Black	Turvey,Sunderland.
28.07.33 *	Cross & Ellis sports	10146	15368	10596	30254	KV4844	Black	Swallow Milburn,Sunderland
08.03.33 *	VDP sports	10147	15170	10597	1958		Red	Follett, London.
04.03.33	Mayfair saloon	10148	15165	10598		ALK228		Follett, London.
08.04.33	Cross & Ellis sports	10149	15179	10600	30253	XJ7063	Black	Henlys Manchester
13.07.33	Charlesworth coupe	10150	15350	10601	12705	KV4842	Grey	Works Car

25.03.33 *	Mayfair saloon	10151	15288	10599		ALA670	Black	Follett, London.
10.04.33 *	VDP coupe	10152	15194	10602	1948	OJ8431	Blue	Hallam,Birmingham.
18.03.33	VDP coupe	10153	15231	10603	1950	AGU227	Grey	Follett, London.
31.03.33	Saloon u/k	10154	15246	10604		AAL55		Ex Works
31.05.33	Charlesworth saloon	10155	15337	10605	12681	XJ7974	Brown.	Henlys Manchester
11.03.33	VDP coupe	10156	15201	10606	1949		Maroon	Follett, London.
20.04.33 *	VDP sports	10157	15238	10607	1959	KG2417	Black	Harris & Day,Cardiff.
25.03.33 *	VDP 2 seat sports	10158	15239	10608	1991	AGU241	lvory & Black	Follett, London.
20.06.33	Charlesworth saloon	10159	15456	10611	12684	KY4741	Black	Waterhouse Bradford
10.05.33	Charlesworth saloon	10160	15316	10609	12831	WD5465	Black	Wrays, Kenilworth.
28.04.33 *	VDP sports	10161	15242	10613	1960	OJ9053	Black	Hallam,Birmingham.
03.04.33	Martin & King tourer	10162	15261	10612				Ex Works
01.04.33	Thrupp & Mab saloon	10163	15265	10614		AGT388		Follett, London.

DISPATCH	BODY DET AIL	CHASSIS	CAR NUMBER	ENGINE NUMBER	BODY NUMBER	REGISTRATION	ORIGINAL COLOUR	SALES DEALER
24.03.33	VDP saloon	10164	15240	10615	1973	KV5141	Maroon	Follett, London.
02.06.33	Cross & Ellis sports	10165	15386	10610	30256		Black	Hanna, Belfast.
07.04.33	VDP sports	10166	15258	10617	1961		Grey	Follett, London.
30.03.33	VDP coupe	10167	15244	10616	1968	JK2779	Blue	Follett, London.
20.05.33	Charlesworth saloon	10168	15360	10618	12682		Black	Watson, Liverpool.
12.04.33	VDP sports	10169	15294	10622	1962	AGT364	Black	Follett, London.
28.04.33 *	Cross & Ellis sports	10170	15284	10619	30255	CZ2309	Grey	Hanna, Belfast.
13.04.33 *	VDP sports	10171	15296	10620	1963	ACD449	Red	Follett, London.
12.04.33 *	VDP coupe	10172	15295	10621	1951	ALA369	Black	Follett, London.
21.04.33 *	VDP sports	10173	15313	10623	1979	AJJ578	Fawn & Red	Follett, London.
24.06.33 *	Cross & Ellis sports	10174	15460	10628	30258	LV4199	Green	Watson, Liverpool.

12.04.33	VDP sports	10175	15314	10624	1980	AGY291	Black	Follett, London.
03.06.33 *	Cross & Ellis sports	10176	15376	10627	30260	JB2251	Grey	Squires, Henley.
22.04.33 *	VDP sports	10177	15315	10625	1981	AGX708	Green	Follett, London.
26.04.33	VDP coupe	10178	15283	10626	1952		Fawn	Follett, London.
03.06.33	Charlesworth saloon	10179	15400	10630	12685	US2058	Blue & Black	Galts,Glasgow.
30.05.33	Cross & Ellis sports	10180	15372	10629	30257	JJ7193	Blue	Follett, London.
05.08.33	Charlesworth saloon	10181	15539	10632	12686	GG9753	Blue & Black	Galts,Glasgow.
28.04.33 *	VDP sports	10182	15323	10635	1982	AJJ585	Black	Follett, London.
23.06.33	Charlesworth saloon	10183	15454	10633	12695		Black	Coxeter, Oxford
03.06.33	Charlesworth coupe	10184	15414	10631	12827	AJJ577	Grey & Red	Foxhorne, Preston.
26.04.33 *	VDP 2 seat sports	10185	15322	10634	1992	VY4668	Black	Follett, London.
03.05.33 *	VDP coupe	10186	15332	10636	1994	AGY232	Grey	Follett, London.
05.05.33 *	VDP sports	10187	15333	10637	1983	ALE634	Grey	Follett, London.

АТСН	BODY DETAIL	CHASSIS	CAR NUMBER	ENGINE NUMBER	BODY NUMBE R	REGISTRATION	ORIGINAL COLOUR	SALES DEALER
*	VDP sports	10188	15413	10638	1984	VE8937	Black & Green	Follett, London.
3	VDP coupe	10189	15534	10639	1995	ALW648	Black	Follett, London.
* 5	Carlton Carriage coupe	10190	15346	10640	1522	AGT9	Blue & Grey	Follett, London.
33	Carlton Carriage saloon	10191	15345	10641			Grey & Black	Follett, London.
33	VDP saloon	10192	15347	10642	1974	AJJ584	Grey	Follett, London.
33 *	Cross & Ellis sports	10193	15467	10643	30265	CG4871	Black	Scott Motors,Southampton.
33 *	Cross & Ellis sports	10194	15424	10644	30259	TV8700	Black	Cripps, Nottingham.
33 *	VDP coupe	10195	15348	10645	1996	ALD879	Green & Black	Follett, London.
33	VDP saloon	10196	15357	10646	1976		Maroon	Follett, London.
33	VDP coupe	10197	15378	10650	1997		Grey & Blue	Follett, London.
33	VDP saloon	10198	15377	10647	1975		Black	Follett, London.
33	Cross & Ellis sports	10199	15479	10648	30264	30-63-**	Black & Green	Rubaak, den Haag, Holland.

10.06.33 *	Martin & King u/k	10200	15429	10649		*KDN330*		Ex Works
30.05.33 *	VDP sports	10601	15397	11051	3012	KG2812	Green	Follett, London.
30.05.33	VDP coupe	10602	15403	11052	1998	AKL335	Maroon	Follett, London.
28.07.33	Cross & Ellis sports	10603	15557	11054	30262	RV3774	Black	Wadham Bros Waterlooville
31.05.33	Thrupp &Maberly saloon	10604	15411	11053		ALP543		Follett, London.
06.07.33	Charlesworth saloon	10605	15496	11055	12693		Blue & Black	Henlys, Manchester.
16.06.33 *	VDP saloon	10606	15442	11058	1977	AJJ588	Black	Follett, London.
05.07.33	Charlesworth saloon	10607	15497	11057	12688		Black	Ex Works
03.06.33 *	VDP sports	10608	15412	11056	3013	ALR783	Cream	Follett, London.
03.06.33	VDP sports	10609	15421	11059	3014	ALU457	Black	Follett, London.
08.09.33 *	Cross & Ellis sports	10610	15625	11060	30261	OC3230	Black	Hallam, Birmingham.
17.06.33 *	VDP coupe	10611	15443	11061	1999	ALE844	Green & Black	Follett, London.
31.03.34	Thrupp & Maberly saloon	10612	15444	11062	LA629B	KV5299	Maroon	Works car
01.07.33	Cross & Ellis sports	10613	15474	11065	30263	WJ6496	Cream	Bambers, Southport.

SPATCH	BODY DET AIL	CHASSIS	CAR NUMBER	ENGINE NUMBER	BODY NUMBER	REGISTRATION	ORIGINAL COLOUR	SALES DEALER
6.33	VDP saloon	10614	15464	11063	1978			Follett, London.
8.33	Charlesworth saloon	10615	15462	11064	12687	ТК9627	Two greens	Hartwell, Bournmouth.
)6.33	VDP coupe	10616	15477	11068	3022		Black & Green	Follett, London.
07.33	Charlesworth saloon	10617	15525	11066	12697		Black	Follett, London.
06.33 *	VDP coupe	10618	15478	11067	3021	ALR782	Grey & Red	Follett, London.
08.33	Charlesworth saloon	10619	15562	11069	12699		Black	Hallam, Birmingham.
07.33	Charlesworth saloon	10620	15535	11070	12694	KV5159	Black	Hallam, Birmingham.
07.33	VDP coupe	10621	15524	11071	3023	ALR781	Maroon	Follett, London.
07.33 *	Martin & King saloon	10622	15487	11072		CH8146*		Ex Works
08.33	Charlesworth saloon	10623	15554	11073	12698		Black	Follett, London.
38.33	Charlesworth saloon	10624	15603	11074	12692		Black	Saunders, Buxton.
7.33	Charlesworth saloon	10625	15536	11075	12691	KV5815	Two reds	Hallam, Birmingham.

