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Austin Times

A NEWSLETTER FOR ENTHUSIASTS OF AUSTIN PRE-1955

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*Handsome from any angle – the glorious lines of the Sixteen .
(Photo : Australian Sixteen devotee Peter Hooper)*

Time for Sixteens to come of age

So much more than a baby 30s Buick with a smiley face, the post-war Austin Sixteen is unquestionably one of, if not *the*, best of British popular cars of its era.

Yet it has been almost totally overlooked by the classic car movement. Its style, quality and technical merit are but the fond memories of those who know the sweetness of the Sixteen from when she was young and beautiful or the experience of those privileged to own one of the relatively few survivors.

Time to spread the word to a wider audience. A sixteen horsepower model aimed at the upper middle and professional classes had featured in the Longbridge range since

the late vintage period and had flitted on and off the stage in various confusing forms until the mid-1930s. The rating then disappeared for a decade, but its revival in 1945 saw the blossoming of the Sixteen as never before.

Contoured bodywork

Percy Leonard Lord came to the Austin Motor Company in March 1938, having worked wonders for William Morris before a bitter quarrel had left him without meaningful motor industry employment. At Longbridge, Lord was soon to become chairman and managing director and is attributed with many things, including

allowing the workforce to smoke and promising to take Morris Motors apart, brick by brick. However, his most significant contribution in these early years was modernising the car range.

Such was Lord's drive and energy that after just eleven months he was able to launch the first 'new look' Austin. The AR coded Eight horsepower was noteworthy for two things. Firstly – appealing, smooth contoured bodywork from the pen of Austin's masterly Italian stylist Dick Burzi, incorporating a rear-hinged 'alligator' bonnet above a rounded, horizontally-barred, chrome grille, reminiscent of many American cars of the day (Buick particularly,



Smile – the styling influence on Austin of this 1938 Buick is obvious

but also Chrysler, and even Hupmobile!). And secondly for the use of a platform chassis ; a major step towards monocoque construction.

A ten horsepower sister (coded GS1) followed in May. Then, in what must be one of the most ill-timed product launches of all time, a Twelve was announced five days before Britain declared war on Germany!

Lovely to behold though the large car was, it was never to be that nice to know. Admittedly its additional beam and bulk lent dignity and poise to the somewhat gangly adolescent stature of the Eight and Ten, but the HS1 Twelve was a poorly conceived being.

Unlike its lower powered siblings it used a slightly beefier version of the preceding 12 horsepower model's conventional cruciform braced chassis frame and also its uninspired four cylinder 1500 cc side valve engine. Putting them together for the new look made for a whimpish, overweight (24 cwts 24 lbs as opposed to 22 cwts 84 lbs) concoction which, sadly, was largely unloved. However, in the HS1 Twelve lay the genes of the superb BS1 Sixteen.

As part of Lord's revitalisation programme he persuaded the board that the company should re-enter the commercial vehicle market.

This territory had not been explored, other than with car-derived Seven, Ten and Twelve vans since before the First World War. Initially the lorries were to range in payload from 30 cwt to three tons and follow Bedford/Commer/Morris custom at the time of using a petrol engine. The unit Austin developed was an *overhead* valve six cylinder of 3,459 cc capacity developing 67 brake horsepower.

Sales of the 'Longbridge Bedfords', as they were sometimes irreverently dubbed because of their external similarity to the Luton firm's WT series, were unspectacular.

Much more significant

Less than 2000 found owners between the start of production in February 1939 and the beginning of hostilities. However, they were to perform yeoman military service and around 75,000 were produced for this purpose.

Austin now had a new overhead valve engine. It is unlikely we will ever truly know whether Lord saw its potential for car application and the means to steal a post war march on his competitors. Whether this was the philosophy or not, it came a step closer to reality in 1943 when the British government

asked Austin for a Jeep engine.

Some authorities have this as intended as a replacement or alternative engine for the American World War II vehicle, others as the basis for a British-built 'Jeep' to overcome losses en route from the United States or, perhaps, for when lease-lend supplies of this ubiquitous machine dried up.

Enormous Commercial Benefit

What is much more significant is the Jeep motor is a four cylinder 2.2 litre L-head. Precisely what engine designer Johnnie Rix, and a team, which included Eric Bareham, John Bishop and Hubert Charles, produced, using the new truck engine as a basis, for their response to the War Department's request.

As an aside, it is interesting to note, the Jeep itself was conceived by the American Bantam Car Company, or American Austin. They failed to reap the enormous commercial benefit for want of an appropriate engine! Also, the post war Austin Champ, like the Land Rover, was, in a sense, a replacement, or



The interior offered armchair comfort, and a heater ! Lurid carpets and nasty indicator switch are non-original

British-built 'Jeep'. Sadly the Rolls-Royce engined military Champ was ill-starred and the civilian version, which actually used the Austin 2.2 litre overhead valve engine, infinitely less successful than Rover's offering.

Success though, did come to the sixteen horsepower 2.2 litre car. By August 1945 the 12 which had seen the light of day just those few days before the outbreak of war, was in production with this engine. The new car was Austin's first overhead valve model and far and away superior to anything the immediate competition had on the books.

Immediately after the war Morris only offered an Eight and Ten - both mechanically outdated models from the pre-war range; Ford also had nothing larger than a side valve Ten until one reached the V8, which was in a class of its own; Standard had a slightly better span with an Eight, Twelve and buxom Fourteen.

There is no point in change for change's sake

Wolseley also went up to the larger sizes but the styles were funereal and everything - except the Austin Sixteen - relied heavily on pre-war technology. Even the so-called quality manufacturers like Rover used the same engine as pre-war in their Sixteen.

Of course, as Herbert Austin himself would have been the first to agree, there is no point in change for change's sake. But there is no doubt the wartime overhead valve four developed at Longbridge was an exceptionally fine unit. 'Unbustable', torquey, utterly reliable, straightforward in concept and easy to maintain. An indication of its success is

the number, and range, of vehicles to which the unit was fitted. At the least glamorous end of the scale, the K8 light commercial and petrol version of the FX3 taxi and at the other extreme, in slightly modified form, the *avant garde* A90 Atlantic and magnificent Austin Healey 100-4.

The Sixteen engine at 2,199 cc (79.3 mm x 111 mm) was large for a four cylinder, and needed the Zenith 41 VI-8's generous whisky-glass-sized float chamber and accelerator pump to deliver its lusty performance. This equated to 64 bhp at 3,800 rpm on the early cars and 68 on later production which is probably attributable to a slight 'hike' in compression ratio from 6.8:1 to 6.85:1. The unit delivered about 108 ft/lbs of torque at 2,200 revs.

Engine room features included a 'hot spot' between inlet and exhaust manifold - not something today's enthusiasts coping with the volatility of modern petrol appreciate - and intriguing valve rocker gear. The latter, concealed beneath an aluminium cover, was designed to, and could indeed, operate in almost total silence.

The system relied on the socket-end being a sliding fit in the top of the pushrod. Oil was then fed from the rocker shaft through the rocker and its ball tip to the base of the socket where it formed a compressible cushion. This took noise-provoking clearances out of the valve gear while always allowing the valves to return to their seats. It was sometimes erroneously referred to as 'hydraulic tappets' but these depend on more positive oil control. However, the Sixteen's layout does call for a special tappet adjusting technique.

The engine drove through a Borg and Beck single dry plate clutch which was identical to

that of the Twelve other than the spring ratings were higher. Likewise the two gearboxes were the same but for a ratio change on third speed - 1.57:1 on the Twelve 1.39 on the Sixteen. But of course, although both cars had a spiral bevel three-quarter floating rear axle the 3.44:1 ratio on the larger vehicle contributed to its entirely different personality. Both Twelve and Sixteen used a one-piece transmission shaft coupled at both ends by Hardy Spicer universal joints.

The chassis was suspended on semi-elliptic, nine-leaf springs front and rear, the former, shorter ones, overslung, the latter underslung.

Austin brakes were never a strong point

They worked in conjunction with Luvax-Girling double acting hydraulic shock absorbers with a transverse torsion bar linking both pairs. The system made the Sixteen a very sure-footed mount and contemporary road testers commented upon its cornering prowess.

Another interesting feature of chassis design was a dual ratio within the cam and lever steering box. At 13:1 around dead ahead the driver enjoyed high geared, performance car steering, while a figure of 16:1 approaching left or right lock reduced the muscle needed for close range manoeuvring.

The turning circle was 42 feet on both locks the steering wheel taking two-and-three-quarter turns one to the other. It has to be said, Austin brakes were never a strong point, but well before the Sixteen reached the marketplace Longbridge had ditched the

*Viewed from
astern, A35-
style tail
lamps and
indicators or
similar, are
essential in
modern traffic*



mechanically challenged systems that had bedevilled cars like the Seven and bought-in the Girling approach. Thus the car had a wedge and roller system operating in 11 inch drums with the advantage of twin leading shoe operation at the front. In fairness, this was about as good a mechanical system as existed at the time and when the 147 sq. ins of braking area was brought to bear, the 27 cwt Sixteen could achieve an emergency stop from 30 mph in just under 38 feet.

Matching leather cloth

interesting though the specification is, there is nothing exceptional about the Austin Sixteen's mechanics. Where it scored over its rivals within the same price bracket (£670 after tax in 1947 - half way through the production life) was on passenger comfort, performance and Austin's attention to detail.

Seat squabs and cushions were in leather with matching leather cloth on the non-wearing portions and lower door facings which were inlaid with kick panels of the carpet material. As might be

expected, the rear compartment had a central fold down arm-rest, but rests on each side of the two separate front seats gave the car a touch of real luxury and was a feature not available on the most luxurious carriages.

Window and windscreen surrounds and the fascia and instrument panel were made from brown Bakelite with simulated wood graining. This steel-hard, resin based, material was the invention of an American chemist named Baekeland. Nowadays it would not be to everyone's taste, and horrify on safety grounds. But at the time the finish was the height of modernity.

Similarly, the central instrument panel, with its circular, cream-faced, Smiths speedometer, flanked by matching oil and petrol gauges to the left and an ammeter and neat, Lucas combined ignition and lights switch to the right, was up to the minute. A tasteful departure from the two round clusters that sat above the driver's lap on most of the late pre-war Austins and still served the Eight and Ten.

Naturally, in these far off days when the sun shone longer and hotter and motoring was a pleasure, there was a sunshine roof and opening

windscreen. But for a mid-priced family car the passenger compartment was also served by a fairly sophisticated heating and ventilation system. At its heart was a Smith's heater unit with an electric fan and small honeycombed radiator capable of providing both interior warmth and screen demisting through slits on top of the fascia capping rail. There was also a large manually controlled ventilator on top of the scuttle which allowed fresh air to be blended with that being circulated within the car. Glass draught excluders above the main windows permitted travel with the latter slightly open.

The tubes and hoses for the ventilation system were cleverly concealed behind a mysterious metal cowl above the heater radiator and its chrome grille. One could have been forgiven for thinking this casing was anything from a cocktail cabinet to a radiogram but it was actually intended to be removed to make space for a radio if required.

Attention to detail

Other thoughtful detailing to the Sixteen's interior were useful leather pockets in each of the doors, openings which provided access to further storage space beneath the front seat cushions and unobtrusive ash-trays on either side of the front and rear passenger compartments.

However, the attention to detail went further than this. Deftness of the designer's hand allowed the bonnet to slope downwards from the windscreen without such an ungainly phenomenon being visible when viewing the car from any normal angle. This meant a driver of average height could see both front

wings when at the wheel, a facility enhanced at night by tiny red tell-tales on top of the Lucas sidelights.

For those who wished to service the cars themselves, or had the misfortune to suffer a puncture, the Sixteen was fitted with inbuilt hydraulic jacks. These were controlled by a hand pump on the left side of the engine gravity fed from a reservoir on the bulkhead. Simply by operating a selector then working a detachable handle the front, rear, or all four wheels could be raised.

Larger tools such as the tyre pump, wheel brace, and starting handle would normally be housed in the spare wheel

SPEC AT A GLANCE

Bore	79.3mm
Stroke	111mm
Capacity	2,199cc
Max. power at	67 bhp 3,800
HP/ton	50
Carburetter	Zenith d/d
Gearbox	Four speed
Steering	Cam & lever
Suspension	All s/elliptic
Weight unladen	27cwt
Brakes	Girling
	(mechanical drum two l/s)
Acceleration through gears	
0-30 mph	5.9 secs
0-40 mph	10.6 secs
0-50 mph	15.5 secs
0-60 mph	25.1 secs
Max	75
Fuel consumption	
	26.5mpg @ constant 30mph
	20.0 mpg @ constant 60 mph

compartment which was below the boot floor.

The boot itself was not commodious - why waste valuable interior space on an area that is often used once or

twice a year? However, the lid could be secured in the horizontal position and used as a luggage platform.

The small tools, 19 of them, lived in a large lidded recess let into the floor beneath the front passenger seat.

Such were the Sixteen's home comforts. Impressive as they might be, it was on the open road that this robust, medium powered saloon excelled. Although top speed was a relatively modest 75 mph, they could reach 0-50 through the gears in 15.5 seconds - creditable for the day. The 2.5 Litre Daimler which cost twice as much, took 17.9 seconds and could only manage a maximum of 72 mph!

Pressing on in the Austin to 60 from rest took a fraction over 25 seconds and a standing quarter mile was possible in about 23 seconds. Fuel consumption though was never very impressive - normally 25-26 mpg. But on the credit side, the Sixteen always delivered its performance smoothly, without fuss or fluster, in a lady-like way.

Monetary value

Grand ladies they certainly were. But no one is perfect, and the Sixteen was not without its faults. The engine itself is extremely difficult to criticise. Normally excellent 'starters', the big Zenith would 'flood' an engine, which did not fire promptly with the accompanying inconvenience.

Period road testers suggested the unit was not as vibration free and 'sweet' as 'some we have tried'. This, of course, is a moot point. Most engines of this size at that time would have been sixes and of shorter stroke than the Austin (for example, the Rover

Sixteen at 2,147 cc with a 100 mm stroke or the Wolseley 14/60 at 1,818 on 102 mm). It is true, there is a certain 'thump' to a Sixteen engine which contributes handsomely to that delightful, highly distinctive burbling exhaust note.

The torque characteristics of the engine, though, are such that it has a pronounced rock on its rubber mounts when idling. Once the flexible section of the exhaust system alongside the gearbox has work-hardened, the pipe continually fractures, turning the melodic burble into an irritating gassy 'blow'.

Austin's one millionth car

Indeed, the exhaust is one of the Sixteen's two Achilles heels. As well as failure of the flexible section, the whole layout is too low. It passes under the rear axle and is vulnerable to grounding on a very heavily laden car or when the vehicle has to manoeuvre on anything other than the king's highway.

The other far worse weakness, is the poor quality steel available to Longbridge at the time of manufacture. Of course, this was as much an issue for Rolls-Royce or Bentley as Austin. However, it is sad so many Sixteens have been slain by the demon rust. Tragic too, the perceived monetary value of a Sixteen, which has many of the corrosion inducing styling features of a contemporary Bentley - spare wheel compartment, lightweight sills, mud-trapping wings - makes the Austin not worth the saving and the Bentley worthy of vast expenditure. Survival rate is unquestionably one of the reasons why the Austin Sixteen has not earned

the historic status it handsomely deserves. Total production between 1945 and '49 was more than 35,000, one of which was Austin's one millionth car. However, many Sixteens simply rusted into oblivion before post-war classics had a sizeable following.

There is possibly also an image problem. Throughout the 50s and 60s the model was adored by the hackney trade to such an extent that unless a private individual was extremely quick off the mark it was very difficult to beat taxi drivers to the available examples. The devotion was so great, with lines of Sixteens, and indeed Twelves, outside many British provincial

railway stations, that the car became regarded as 'a taxi'.

By the time large numbers of Humber Snipes, with their rather more spacious rear saloon, were released from military service and became the preferred choice, petrol prices were becoming an issue, and, as mentioned earlier, the Sixteen was never very abstemious on fuel. So the motoring world is the poorer for a dearth of Sixteens; potentially an enthusiast's dream - reliable, easy to work on, stylish, luxurious, safe and competent on today's roads; those 'baby Buicks' which smile as they go by and leave you a burble as captivating as that of a vintage Bentley.

Coming soon on the BS1 Sixteen - Seven Capitals in Seven Days - was this their finest hour?

The Club for Austin Sixteens is The Austin Counties Car Club. Chairman : Chris Tallents, The White Cottage, Kinlet, Bewdley, Worcs. DY12 3BD. Twelve/Sixteen specialist Keith White, 46 Cinderwood Drive, Stoney Stanton, Leics LE9 4TA.

A monograph on the BSI Series Austin Sixteen is available from Winged Wheel Publications. Price £10/ 15€ plus postage

Beginner's Guide to the Seven

Part One



Left to right : Classic form – an early 'Chummy' ; height of modernity – an ARP Ruby ; and mid-term sophistication an RP saloon (photos l to r : Bill Ballard, author, Bernard Shaw)

LAST YEAR saw the 80th anniversary of the Austin Seven's launch with dozens of events to mark another milestone in the history of these remarkable cars.

However, if you are like me when I was new to the Austin movement, you may feel a little inadequate over the chapter and verse of

Seven history. So here's a crib sheet. It won't turn you into the sort of 'guy or gal' who knows a pre-'32 oil filler spout from a later one - would you want to be anyway? But it will send you pootling off to the next event with the basics.

In 1920 the Austin Company was bust. To save the day Herbert

Austin had the idea of marketing a large automobile in miniature.

Helped by a talented young draughtsman named Stanley Edge (not to be confused with Stanley Edge of Napier fame) the baby car was designed in Austin's billiard room - but not, as is apocryphal, on the billiard table.

Everything was ready by the very early part of 1922 and a prototype running by March.

The Austin Seven was actually launched at a press lunch in Claridges Hotel, London, on July 21, 1922.

Originally, the engine was of 696 cc but after just 100 cars, the bore was increased to give a capacity of 747 cc (56 mm x 76 mm). One of the many interesting features of very early engines was a mechanical starter, not unlike the pull-start on a marine outboard or lawnmower, and located inside the car.

It is often said Austin Sevens remained largely unchanged for the whole of their 17-year life. This isn't strictly true. As you might expect, the 1939 cars were markedly different from their 1922 sisters. What remained unaltered was the cylinder dimensions and 747 cc capacity.

TROUBLED YEAR

The first Seven 'landmark' most people would probably recognise was the advent of the first *Austin - built* saloon in 1926. The company had built coupés prior to this, and coachbuilders various closed cars, but it was the R Type of that industrially troubled year, which was Longbridge's first four seater saloon.

Previously, of course, the bulk of the works' output would have been what you and I know as the 'Chummy'. Beware though, while the Seven did make the name 'Chummy' its very own, it is not an exclusively Austin term. Other makers used it for any small car where the

hood covered all four seats.

August 1928 saw the next major change - from magneto to coil ignition. This simplified and cheapened manufacture for the works and improved starting for the owner. It also changed the appearance of the engine, most noticeably at the front, where the timing gear case needed to be altered and the new dynamo sprouted the system's distributor.

From mid-1930 the Seven was fitted with coupled brakes. Until then the front shoes had been applied by the hand brake and the rear by the foot pedal. Don't laugh. Rolls-Royces didn't acquire four wheel brakes at all until two years after the baby Austin!

Just over a year later, in October 1931, an increase in chassis length took the wheelbase from 75 to 81 ins. As a rule of thumb, long wheelbase Austin-bodied cars can be identified by those familiar, large, doors now having a straight trailing edge and not needing to be contoured around the wing. It was around this time also, the much-loved 'Chummy' disappeared in the form it had been known for almost a decade. Four seater tourers remained in the catalogue as the Open Road Tourer, a name shared with other sizes of Austin to this design.

CHARACTER

Just as the Chummy had now gone, further changes for the 1933 season destroyed much of the vintage character of the little car. The RP saloon, which was launched at the 1932 London Motor Show,

had a four speed gearbox, its petrol tank at the rear, as opposed to under the bonnet, with pump instead of gravity feed.

Instrumentation and other interior details were also new.

Even more radical changes were to follow in 1934 with the introduction of the 'jewel' series - Ruby saloon, Pearl cabriolet and Opal two seater. These cars had a lowered chassis frame the rear portion of which swept up and over the axle. In addition the body styling was totally different. The most dramatic features were a cowled radiator and re-designed tail, incorporating a spare-wheel cover. To be strictly correct, the Opal didn't get a cowled radiator until the summer of '36 when the whole range was up-dated. It never did get the new rear end. The 1936 revision meant slightly softer lines and a fuller figure.

FIRST SERIES

You can tell these later Rubies and Pearls at a glance by the much thicker section door pillars and window frames, and of course the Opal by the cowl. The first series had the old chromed radiator. In June 1936, just before the up-date of the jewels, the Austin Seven engine received its last major alteration. In essence, this added an additional main bearing to the crankshaft, making three instead of two.

None of these modifications, however, could alter the fact the Austin Seven was now a very out-dated car. The last

was manufactured on January 17, 1939 and the final chassis, destined for van bodywork, on March 3. In total around 290,000 Sevens were produced.

A few extra gems. The Big Seven did not replace the Seven. It was a complimentary model. The

Austin Eight supplanted both Seven and Big Seven in 1939.

And to impress your posh friends - the first BMW cars were, in fact, Austin Sevens built under licence. A large number of baby Austins were produced in France as the Rosengart

and Sevens were also successful - eventually - in America, where they were called the Bantam. In addition, there was a considerable following, and still is, in Australia while even further afield, the little cars made their mark in Japan.

More on the Austin Seven next time.

The Wheel dons its water wings

by
our own
correspondent



Just the sort of elegant craft which might have used Austin marine engines

There is no doubt the Austin Motor Company will always be remembered for the outstanding contribution it made to *automobile* history.

However, it was active in many other fields of engineering all of which we hope to touch upon in *Austin Times*. Commercial and military vehicles, stationary engines, tractors, even pedal cars and aeroplanes were all made by the company at one time or another.

One area in which the works was particularly active was that of marine engines, although today, this fascinating dimension seems virtually forgotten and largely overlooked by enthusiasts. A reason, of course, is nowadays petrol engines and boats are not considered to be very compatible shipmates.

Spilled or leaked petrol swilling about the bilges does not make for happy cruising and electric ignition hardly has an amicable working relationship with sea or river water.

COUNTERPARTS

But it was not always so. And in any case, we should not overlook that Austin marine engines are just as satisfying to work on as their vehicle counterparts. When you've polished all the brass bits the car units don't have, they make superb static displays or an exhibit you may consider entering, and running, at the appropriate shows.

The company's links with the sea go back a long way, certainly to before the First World War. In his definitive

history *The Austin 1905-1952*, (David & Charles, 1981) R J Wyatt tells us briefly of *Maple Leaf IV*, an Austin-engined motor boat *donated* to the Admiralty in the early stages of the First World War by a titled gentleman surnamed Edgar.

The Navy rather ungraciously responded by declaring it used too much fuel to be of 'any practical value'.

There is a quite exceptional story here. *Maple Leaf IV* was built in 1912 by Saunders of Cowes and powered by nothing less than two V12 Austin engines developing 380 horsepower *each*. She won the British International Trophy Race two years in succession and was capable of nearly 51 knots (over 58 mph).

This flies in the face of the mistake many commentators

make in their remarks about Austin. 'Grey porridge'; boring bread-and-butter cars for the masses.

Even if that were true, which it most definitely is not, Austin cars took the form they did because Sir Herbert understood brilliantly the market demands, then catered for them.

Although the automotive engine may have been comparatively light, compact and powerful, its performance was not ideal on the water

Yet here we see the other side of the coin. A man capable of designing a spectacularly successful V12 two years before the Great War.

It also illustrates that Austin was abreast of contemporary thinking on marine propulsion. Around the turn of the century, fast powered craft started to appear as it became generally accepted the new fangled motor car engine could also drive a boat, and infinitely faster than reciprocating steam power.

It was soon realised however, that although the automobile engine may have been comparatively light, compact and powerful, its performance was not ideal on the water.

By the middle of the decade more robust, slower revving marine units were being developed. And of course, the technology was extended to provide big, powerful - and very thirsty - plants for small commercial vessels, cabin cruisers, motor yachts, tenders, pleasure boats and the like. It was clearly these developments which Austin had taken on board.

Another reference to what are probably marine engines appears in company records for the summer of 1916 when

the production of 25 engines for the Admiralty is in hand. At 230 horsepower it is hard to imagine these would be for any purpose other than propulsion, but one cannot be sure.

It was in the 1930s, when the ubiquitous Seven was already a household name and in the full tide-swell of production, the Austin marine engine really came into its own. Longbridge must have been alive to the market potential for some time because at least as early as 1930 they were advertising standard engines 'for light motor boats' in the relevant press. Albeit neglecting to mention that the little unit would need rather a substantial makeover before installation in the *Saucy Sooty*.

Even so, firms such as Maintenance Ltd of Beavor Lane, Hammersmith, London, nailed their colours to the mast and developed businesses marinising the Seven engine.

Maintenance was run by J P Dingle, who was a cohort of Austin's son-in-law, Captain Arthur Waite, in racing early Austin Sevens. His mainstream activity later became the tuning of the model for competition. This included the provision of a special axle ratio to provide 50 mph in second gear and around 65 in top.

There seems little doubt Maintenance's marine conversion was one of the best on the market but others gradually became available from firms like the not quite so prestigious Elephant Motors, also of London.

Austin was clearly inspired by the success of this proprietary machinery and with typical thoroughness set about an in-house design. They 'pushed the boat out', quite literally, with a well conceived, robust, quality unit which, according to *Motor Boat and*

Yachting magazine was ready for the boating public in 1934.

The basic structure was as for the car, and indeed other Austin non-road engines, like the Beresford Stork pump, with the crankcase, cylinder block and head all being the same.

The sump, however, was made from cast iron and, like the 'Stork' fitted with tubes to submerge cold water in the oil. The dual thinking here would have been to withstand salt corrosion more rigorously than the car's pressed steel item, and cool lubricant which only had the benefit of very limited air circulation.

They 'pushed the boat out' quite literally with a well-conceived, robust, quality unit, ready for the boating public in 1934

Another 'sump feature' peculiar to the marine engines was a short tube on the starboard side which, during servicing, allowed old oil to be siphoned off when the drain plug was obstructed by a hull. Rather ironically, the delivery and ejection of marine engine cooling water is a somewhat complicated process.

The Austin uses a camshaft driven gear type pump to draw its supply from outside the hull. If it goes 'the long way round', the water passes to the cooling tubes in the sump, into the cylinder block via a modified, vehicle-style, inlet on the starboard side, progresses to the head in the normal way, thence to a cooling jacket cast around the exhaust manifold. It is then released into the exhaust pipe below manifold level and discharged into sea or river. (Some set-ups also incorporated a water-cooled silencer).

A tap on the cylinder head can be used to select a much shorter route whereby the

cooling water goes direct from pump to head, to manifold, before leaving in the normal way via the exhaust pipe.

A third tap position allowed the water to by-pass the cooling system when the engine was being started and just before it was stopped.

Intriguingly, the purpose of all this was to prevent the engine running cool. No water at start up, followed soon after by a flow to the cylinder head and manifold, then full circulation. It must all have demanded skilled judgement on the part of the skipper and a level of 'vessel sympathy' unheard of today. The only guidance available was that the cylinder head should be 'just too hot to touch'!

TRADITIONAL

As mentioned earlier petrol, electricity and seawater do not make good shipmates, which is one reason the petrol marine engine has almost totally disappeared.

Austin gave customers the option of either magneto or coil ignition. Where a magneto was specified, it was mounted transversely, in a cast iron cradle, on the forward port side, and gear driven from the camshaft.

Coil ignition was similar to that on the car with a longer dynamo protruding from a casting (iron not aluminium) on the starboard side with the distributor gear driven from its armature spindle.

Where owners required magneto ignition *and* a dynamo - for electric self-starting and/or cabin lighting, for example - the generator could be supplied without the distributor. Where no dynamo was fitted, a closing plate was applied to the housing. A similar blanking plate would be placed over the starter motor aperture in the bell

housing when this component was not required.

The traditional way of starting the magneto 'fired' engines was by a cast iron encased chain drive at the front of the engine and operated by a conventional starting handle above cylinder head level.

The 'internals' though were ingenious. The act of engaging the handle caused rocking levers within the chaincase to transfer the motion to the crankshaft end, and push a spring loaded starting dog into engagement. When the engine fired, the spring kicked out the dog.

Manual starting at the front of a marine engine does not always accord with the boat's layout and a further refinement was to arrange a shaft above the engine which ran all the way from the rear of the chain case to a point above the gearbox where it was supported by a bracket. The starting handle could then be used at this end of the engine when more convenient.

Even more innovative was an inter-connection between the Zenith carburettor and the forward and reverse control. When neutral was selected the throttle was automatically closed until the engine was put ahead or astern whereupon revolutions increased to a point determined by the position of the hand throttle.

Enthusiasing about the feature in May 1938 *Motor Boat and Yachting* said: 'This is a great convenience as it avoids the need for using the hand throttle when manoeuvring. Attention can be concentrated on the steering wheel and the gear lever.'

Proprietary marinisers like Maintenance tended to modify the normal Austin gearbox by retaining the casing, fitting a simplified gear set and a new top cover. Some, like Elephant Motors, kept the clutch cover because on pre-1933 Sevens

the starter ring gear is on the latter and not the flywheel, and could be used where electric starting was ordered.

Austin themselves turned to the Parsons Oil Engine Co. Ltd of Portsmouth for a gearbox. This was a weighty epicyclic unit incorporating a 'wet' multi-disc clutch. The lubricant was fed from the crankcase to the bottom of the bell-housing the level being regulated by a tap.

Some specifications incorporated a reduction gear, often referred to as the 'slow speed cruising' option.

ACHILLES

The Seven marine engine was marketed as the *Thetis*, named after the water nymph who, as the mother of Achilles, appears in ancient Greek poet Homer's Trojan war epic, *The Illiad*. The name was also to have the saddest connections in the Royal Navy as the submarine *HMS Thetis* sank in Liverpool Bay on June 1, 1939, with considerable loss of life.

Market sensibilities may not have been so sophisticated in the 30s and it appears the Austin range enjoyed a distinguished career.

One of the most successful applications for Thetis engines was as machinery for a range of boats built in an alloy called Birmabright, or sometimes 'Birmetal'.

Its story will ring a bell with Austin enthusiasts in another context. Many of the aluminium components used at Longbridge - and indeed other motor works, including Morris - were produced by W H Maudslay's grandiosely named Birmingham Aluminium and Casting and Midland Motor Companies.

Maudslay had been a creditor of Herbert Austin in the early

days and obviously the mutual 'back-scratching' continued.

The castings delivered to Austin are marked *Birmal*, the word sometimes configured in a diamond shape. These parts were made by an off-shoot of B A C and M M C called Birmid, at Smethwick, in the English Midlands.

Birmabright was another activity in Maudslay's empire and reflected a long-standing interest in marine matters. It was the trade name for an aluminium, magnesium, manganese alloy intended for use in boat building. To fully promote the product and its appealing characteristic of being almost half the weight of conventional materials B A C and M M C (Birmid) took over the boatyard of Summer & Payne on the River Itchen, near Southampton, around 1930.

Craft ranged from 16 foot dinghies to a sizeable 65 footer called *Interceptor*, for the Royal Canadian Mounted Police. The vessels' skeletons were cast Birmabright which was 'skinned' with sheets of the material, but even the smallest parts from rivets to cabin fittings were made from the alloy.

By the time production ceased about 1938 some 200 boats had been built on the Itchen along with ships' lifeboats constructed in the parent plant at Smethwick. The Thetis engine was normally fitted to the smaller craft such as day boats and harbour launches.

Other outlets for pre-war Austin marine engines was in ships' lifeboats, an application of which the

company was justifiably proud and featured in its advertisements.

When used in smaller vessels and as auxiliaries in yachts reports indicate the range performed extremely well and were ideally suited to their charges.

However, some criticisms were voiced over the electrical charging system (it was ever thus) and the throttle/fore-aft interconnection.

A contemporary boating journal revealed that some customers had wired the system with cable of too low a rating 'resulting in overheating of the dynamo'. And its correspondent went to the lengths of recommending specifications for everything from battery leads to the low-tension ignition circuit.

When used in smaller vessels and as auxiliaries in yachts, reports indicate the range performed extremely well

Whereas *Motor Boat and Yachting* stressed the need for careful adjustment of the carburetter and linkages if potentially dangerous stalling was to be avoided when using the automated facility for close manoeuvring.

In extolling the virtues of the Thetis, one should not overlook the other engines in the Austin marine range. The 10 horsepower version was called *Triton* after the 'merman' son of Poseidon, and the largest offering of 16 hp was billed as the *Tornado*.

Both these complementary units, like the Thetis, were based on the equivalent

road vehicle engine. Both are now rare and the author knows of but one surviving example of each, neither in working condition.

Yet in their day, both Triton and Tornado were valued shipmates. The Austin publicity film *Cornwall Calling*, quite apart from embracing intriguing screenplay, features twin Tritons fitted to the graceful motor yacht *Ettika* (Where is she now?).

This footage may be of particular interest to 'technocrats' because 'crumpet'-shaped air filters, as fitted to the carburetters of many export cars are clearly visible. This implies a side-draught carburetter which, of course, was standard on the Austin Seven throughout its life, but not the late Ten. This begs the question - was the earlier design retained for marine engines?

Another Austin film clip tells us much about the Tornado. One of the applications for these engines was in the larger examples of the beautiful 'slipper sterned' pleasure launches built by Andrews Boathouses of Bourne End and others, specifically for Thames day-cruising.

The silent 16 horsepower side valve must have added a touch of opulence to a strawberries and champagne, straw-boated spin on the river. And the automobile derivation would have perfectly suited that design parameter of the slipper sterns, to handle and be controlled like a car.

Very few pre-war Austin marine engines are now known to serve in boats. However, in recent years a Thetis has been installed in

a 14 foot Jersey-based wooden dinghy named *Allouette*. Performance is impressive, not least because the vessel has ferried war veterans to St Malo to commemorate the evacuation, using boats from St Helier Yacht Club,

of British demolition experts stranded in the French town during World War II.

This feature is based on material which has appeared in the excellent magazine of the Austin Seven Clubs' Association ,

available to all who join a club for this model; many other reference works and films on Austin history, and information contributed by generous contacts on the island of Gozo, and Cambridge and Blackburn in the UK.



*Slipper stern launches frequently used an Austin engine, although Baby Greyhound, pictured, actually had an American Gray.
Photo : Colin Sims*

Correspondence

Dear Martin

I recently dismantled my War Department Austin engine for reconditioning. During the course of the work I discovered the inlet tappet barrel on number three cylinder was broken completely in two. In many years of side valve Austin ownership I have never come across a breakage of this type, so I would like an explanation as to how this might have occurred.

Best wishes

**Ian Hepworth
Oscroft, UK**

Interesting one Ian. With Longbridge's reputation for quality, it seems unlikely to be faulty material or manufacturing. I wonder if a previous rebuilder may have dropped the tappet and caused a hairline crack. Or, and this is an 'off-the-wall' theory – the cam bears on the tappet eccentrically in order to rotate it and minimise wear. Is it possible your engine's tappet was not rotating for some reason, like a defect in its bore, and the stresses eventually caused a circumferential fracture. Over to Times readers

Dear Editor

I have been collecting miniature vehicles for many years and am proud of my Dinky and Corgi military and civilian sets. I would now like to put together the range of models offered by Dinky for different British marques starting with Austin. Can anyone tell me what models were represented in the Dinky range both pre- and post-war?

Yours faithfully

**Gerard Ferris
Barnet, UK**

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