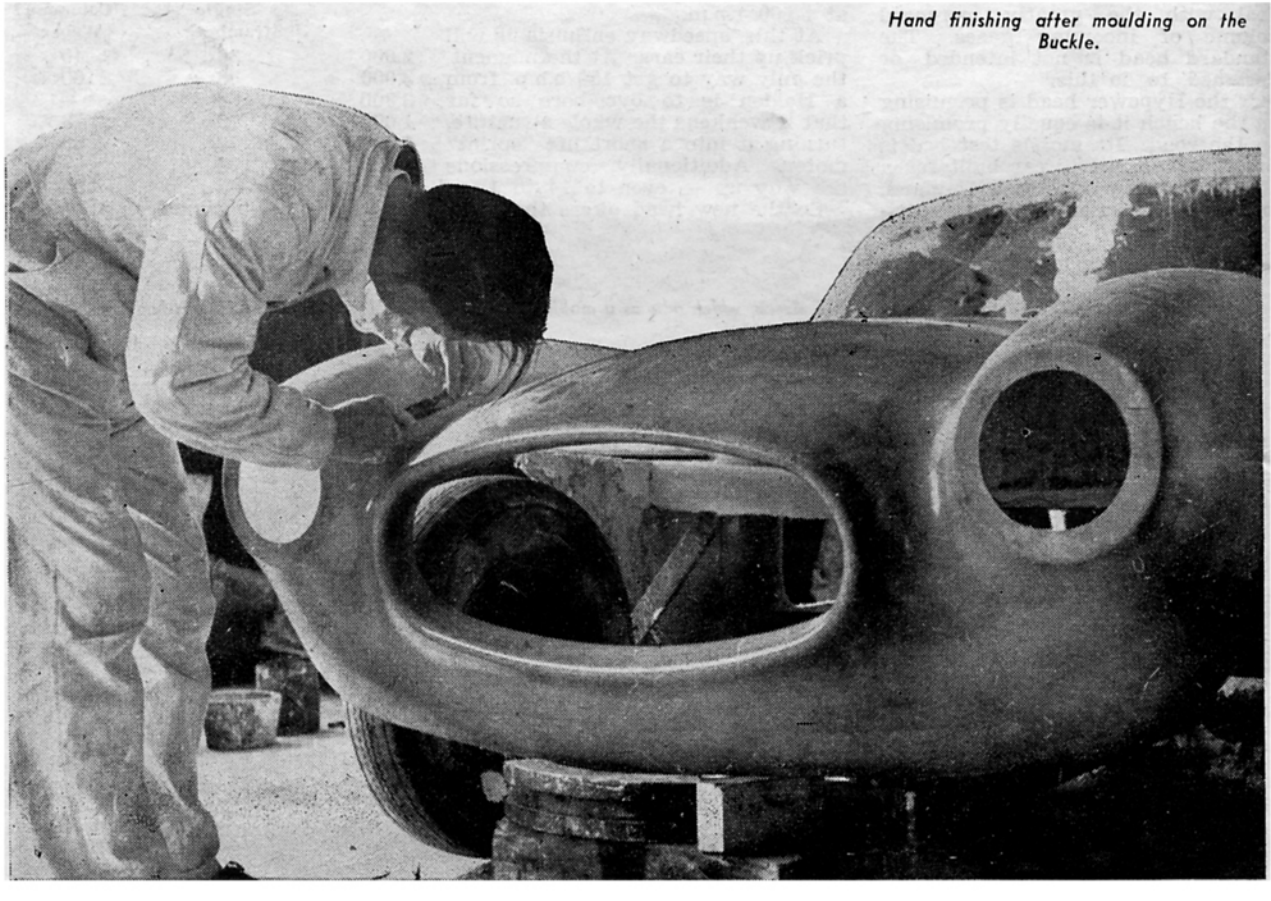
Sports Cars

Australian sports car constructors near the stage of limited production, shows our review.

Nat Buchanan has an ambitious programme of sports saloons, bodies for private constructors, and complete sports chassis.



Hand finishing after moulding on the Buckle.

Made in Australia

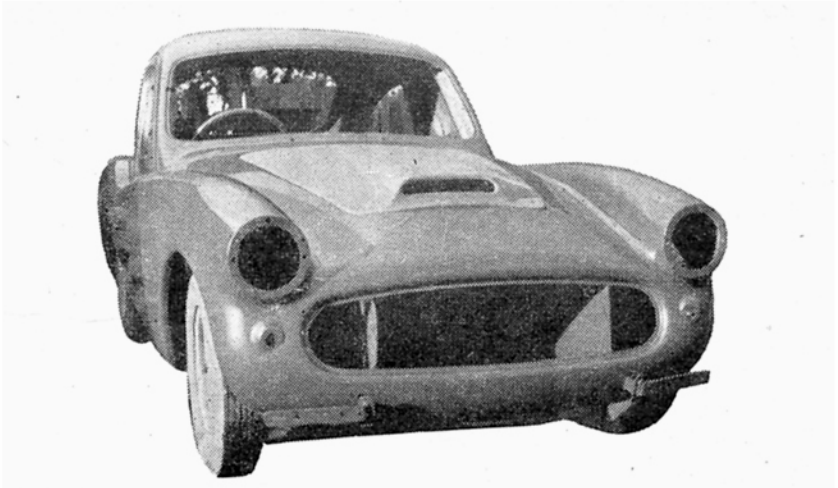
OVERSHADOWED by the bigger factories, and with limited sales possibilities when compared with such giants as Holden, the limited-production car, and the new industry associated with it, is nevertheless a new and growing force in our automotive world.

In small workshops, using the facilities offered by outside firms, limited in labour forces and handicapped by the fact that every operation is new and must be proved as the work progresses, Australian constructors have nevertheless advanced to the stage where the Australian sports car is a reality.

This activity has been carried out against a background of worsening import restrictions and cost structures which have hit specialist cars especially hard. The M.G.A. is virtually unobtainable; the price of the Austin-Healey and T.R.2 have climbed and in fact the T.R.3 with fixed top is now approximately £1750, with supplies limited. Apart from these the field offers nothing. Specialist sports saloons are higher still.

So providing reasonable prices

The Tontala, exhibited at the 1955 Melbourne Motor Show was the first Australian car produced with the intention of limited production.



The body shell of the Buchanan, showing the air scoop for the carburettor and the separate air inlets for front brakes on each side of radiator air intake.

can be assured, the Australian constructor has a solid opportunity of annexing a market which is more anxious than ever to buy this type of car.

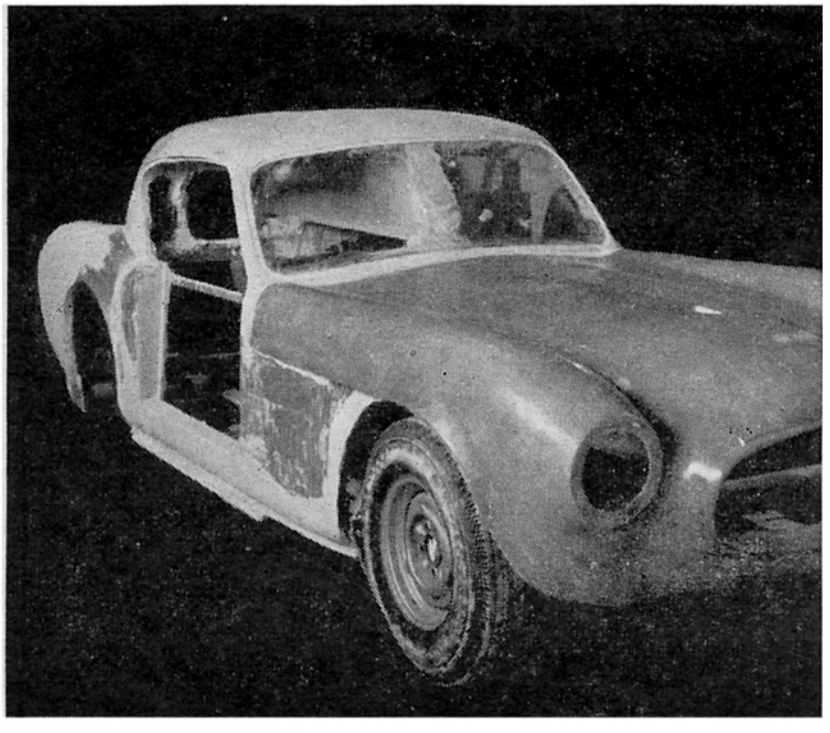
The task has proved formidable. Supplies of components involve great detail organisation in themselves. The manufacture of chassis and suspensions on a line basis is completely new.

And although fibreglass is an ideal and cheap medium for building bodies in batches of 500 or 1,000, the techniques of moulding are difficult until they are mastered. Additionally, our constructors have found that body design is in itself an art.

Sales, guarantees and service again presents problems. The service of a handful of cars owned by people living within range of the factory, or owned by racing or sports enthusiasts, is one thing. The necessity of providing adequate service arrangements for cars bought by enthusiastic, but not mechanically inclined owners, scattered the length of a State, is something else again.

All these problems seem to have been solved by two constructors at least, and, barring major mishaps, 1957 should see Australian sports cars on sale to the public.

The plaster mould for the Buckle car, with the completed fibreglass bonnet added to show the lines.



So far, all the constructors have seized on fibreglass as the body medium, and have used stock engines and transmission supplied by large car-making companies.

However, there has been much original construction in chassis frames, suspensions and body designs. And all constructors, because of plans for limited production, are in a position to offer a great variety of built-to-order equipment.

BUCHANAN:

Nearest to completion is Nat Buchanan's close-coupled coupe, based on Ford mechanical components. A partner in a large firm which builds expensive, high-quality radio phonographs and television sets, he has also branched out with a subsidiary firm called Buchanan Motors, whose main interests so far has been the sale of hot bits of various sorts, including the Buchanan-Warnerford Consul and Zephyr conversions.

Meanwhile, work has been progressing on the Buchanan car, which, with a range of finished and unfinished fibreglass bodies for home constructors, and completed sports cars, will eventually form the main side of Buchanan Motors interests.

The body is of unusual interest for the layman in that it is made complete in one piece — bonnet, wings, roof, tail and bracing inside, including the scuttle. The mould — which is a replica of the outside of the body — is built up in seven pieces upside down and the body material moulded into it.

The mould itself is of fibreglass and was made from a complete plaster mockup of the finished car. In the Buchanan car earlier imperfections in moulding technique induced the constructors to put in an intermediate step of pattern — mould — pattern — mould — finished body, but in future designs no such intermediate step will be taken.

In the mould, the body is formed by spreading polyester resins over the mould, then layers of fibreglass mat, then more resin. After drying the mould is dismantled and removed from the body in pieces.

The doors, bonnet lid and boot lid are moulded separately.

The chassis was designed after much experience in chassis building for racing, and consists of two long box section rails swept up over the rear axle with five tubular cross braces.

Front suspension is independent by transverse leaf, with lever-type dampers with integral wishbones.

The motor in the standard car will be the latest Ford Consul engine increased in power from 55 to 70 b.h.p. but the Zephyr engine, which develops about 80 b.h.p. as standard and 120 b.h.p. without much modification, is available at extra cost.

The gearbox is the standard three-speed Zephyr unit used with the conventional rear axle and semi-elliptic springing. Rear axle will be 3.9 standard or 4.4 to order.

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Body accommodation is for two, with occasional seating for two children or an adult behind. Luggage is accommodated behind this seat.

There is no true boot-lid, but an opening hatch gives access to the spare wheel and limited access to the luggage.

The petrol tank holds 10 gallons. Overall length is 13', width 5'2", height 4'8", wheelbase 7'7", clearance 7".

Standard Zephyr brakes are used. Lining area for a kerb weight of only 16 cwt. is ample.

The other half of the venture is the supply of open bodies for sports cars. The bodies, similar in line but without the fixed top of the saloon, can be supplied to wheelbases of 7'3" to 8'.

They will be supplied unpainted and without fittings and furnishings, or complete with seats and all fittings. Indeed, a tubular chassis can be supplied as well with motor and transmission.

BUCKLE:

Another car nearing completion, and which will be offered for limited sale, is that built by Bill Buckle, of Buckle Motors, Sydney. Like Nat Buchanan, he is a well-known motor sport competitor.

His earlier experimental car, which was described in "Wheels" last year, gave much information on mechanics and styling, and the new car is an entire re-design of the whole project.

The constructors have gained much experience in plastic forming and moulding, and the new car has at present time of writing reached the stage where the final moulds can be taken from the plaster pattern.

The body will be in one piece, with the big bonnet, doors, floor and boot lid moulded separately. The floor will be cemented to the body later.

The chassis to carry the car is already complete. It has the Ford Zephyr engine of about 80 b.h.p., three-speed gearbox, back axle and brakes.

The front suspension is by transverse leaf spring, with straight lower control arms underneath. Lateral location of the wheels is provided by the centre spring mounting and by the torsional sway bar which runs ahead of the spring. Telescopic dampers are fitted all around.

The chassis frame has two straight rails with five cross struts. Rear suspension is by semi-elliptics slightly inclined toward the front.

The body will be quite luxuriously furnished. Two separate front seats will be fitted, and the top of the propeller tunnel has been made flat so a padded centre section can be laid on top. With its own squab, it thus provides seating for three across.

Behind there are two occasional seats, although for long trips one person in the back would be the normal load.

The spare wheel and fuel tank and luggage space are at the rear. (In the earlier car the spare wheel was carried inside the front mudguard.)

The spare wheel is under the boot floor. There is a big, full-deck lid for the locker.

Equipment will be comprehensive. Headlights will be the Lucas long-range pattern with the double reflector system. Windscreen washers will be standard.

A wide variety of individual requirements can be met. Seating positions, power options and furnishings can all be built into the car as required.

Weight dry will be about 16½ cwt.

TONTALA:

Earliest of the constructors was the Tontala Motor Company, of Canterbury, Victoria. Tony Thieler, in control of the venture, and his helpers were the first in the country to tackle the problems of reinforced polyester resin construction, and they found no way to master the technique — which they did — but by trial, error, and repetition. Their aim was a two-seater sports coupe.

The moulds for the body were completed in October, 1954, and the chassis was completed in the same month. Holden components were employed, the plan being to offer the engine in various stages of tune and the car with such individual modifications as the owner required.

The body was moulded immediately the moulds were ready and the finished car was not tested in this complete form until December, 1954, by which time the construction had been modified in the light of on-the-road experience and the design fixed.

The car was exhibited on schedule at the Melbourne Motor Show of 1955, and it was later seen in Sydney. Sufficient orders were taken by the infant company to ensure steady production for the rest of the year, but as in the case of so many ventures in unsettled business times, expected capitalisation did not materialise and production could not be undertaken.

Rather than let the fruits of the work lie unused, Thieler decided to offer a complete car as a home construction kit to those who felt they had the necessary skill and facilities to assemble it. The price in this form is about £1,400 on the road.

In this form the two-seater coupe has attained well over 100 m.p.h. The claimed power output was 90 b.h.p.

Modifications include a reground camshaft on Waggon timing, three S.U. carburettors, 7½ compression, sports coil and double valve springs.

All-up weight is 17½ cwt.

DEAN:

A dark horse in Melbourne is Charles Dean, Chief Experimental engineer for Repco Ltd. A prototype sports chassis has been built and tested, using many Repco components. However, as we went to press no news was available from Dean. It is not known whether the car must be regarded as a one-off special or whether limited production is contemplated.

In summing up the position, the old cliche "quietly confident" seems to apply to the Australian constructor. He is refusing to be deluded into wild dreams of line production until it actually happens, having seen how often even large British and Continental firms have come the well-known gutser over new cars, having promised the moon to the press and their customers.

This prudent attitude has meant that our limited-production sports cars are all but on the market without any misleading promises being made or wild publicity bruited about. In sports car circles such a policy will be commended by many, especially if the cars fulfill the promise they show.

"Sounds thrilling—40 action-packed hours behind the wheel . . . an exciting contest for the last vacant motel . . . glorious tramps through palm-lined parking lots . . ."