

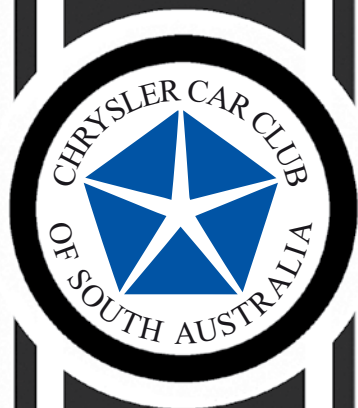


# ***Torqueback***

OFFICIAL MAGAZINE OF THE CHRYSLER CAR CLUB OF SOUTH AUSTRALIA



## **The Flathead & The Poly**



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**Hunter Media**

Contributors  
**John Leach**  
**Luke Balzan**  
**Andy Miller**  
**John Antinow**  
**Lesley Little**  
**Iain Carlin**  
**Damian Tripodi**  
**Marco Crisanti**  
**Herman Kloss**

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*Enquiries*

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CHRYSLER CAR CLUB OF SOUTH AUSTRALIA INC

# ***Torqueback***

SEPTEMBER - NOVEMBER 2018

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All correspondence should be sent to:

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G'day there.

Welcome to **Torqueback** issue 34 – with the theme of *The Flathead & The Poly*. Two of **Chrysler's** most famous and successful engines.

This will now be our third edition of the magazine with a theme highlighting a particular motor – previously we covered the **Hemi** in issue 22 (January-March 2015) and then the **Slant Six** in issue 30 (July-September 2017). As promised, down the track I also plan for **Torqueback** to look at the **Wedge**, **Magnum** and **LA** motors...

Anyway, today we're gonna briefly examine one of the oldest designs – the 'flatty', and perhaps one of the most underrated designs – the Poly.

Internal combustion engines work in mysterious ways for the uninitiated like me.

The earliest mechanism known to use a connecting rod and a crank is a device called the *Hierapolis sawmill*, a contraption that dates back to the 3rd century AD. However, the internal combustion engine's genesis comes courtesy of **Jean Joseph Etienne Lenoir**, a Belgian that developed a gas-fired engine with connecting rods, pistons, cylinders and flywheel in 1860. That design wasn't without fault, but **Nikolaus Otto** did manage to invent a better mill from it that could burn fuel much more efficiently.

Since that seminal moment in 1862, the internal combustion engine slowly but surely caught on. And it has now become one of the most important utilities of modern living together with electricity and hot water (although, maybe not so good for the planet).

The first gasoline-fueled, four-stroke cycle engine was built in Germany in 1876. In 1886, **Carl Benz** began the first commercial production of motor vehicles with internal combustion engines. By the 1890s, motor cars pretty much had reached the concept we have of them today.

**Horace** and **John Dodge** founded the **Dodge Brothers Company** in Detroit in 1900, and quickly found work manufacturing precision engine and

chassis components for the city's growing number of auto firms. Chief among these customers were the established **Olds Motor Vehicle Company** and the new **Ford Motor Company**.

By 1914, John and Horace (who had fallen out with **Henry Ford** so they bailed on him) went out to design and introduce the first car of their own – the four-cylinder **Dodge Model 30/35** touring car.

Marketed as a slightly more upscale competitor to the ubiquitous **Ford Model T**, it pioneered or made standard many features later taken for granted like all-steel body construction (as the vast majority of cars worldwide still used wood-framing under steel panels); a 12-volt electrical system (6-volt systems would remain the norm until the 1950s); 35 horsepower engines versus the Model T's 20 horsepower, and sliding-gear transmission (the best-selling Model T would retain an antiquated planetary design until its demise in 1927).

Once the Dodge brothers produced their own car, John Dodge stuck it to his scabby former boss by saying, "*Someday, people who own a Ford are going to want an automobile*".

Inline and sidevalve designs were the first real evolution of the engine for a mass-produced car. The Flathead was the natural selection to become the universal blueprint for nearly all makes of car around the world, including Chrysler – who made a Straight Six, Straight 4 and then a Straight 8.

Of course, the most famous flatty of all was the V8 by Ford, while Chrysler's best was the Flathead 6. **Mopar** fumbled the footy though when it came to coming out with an eight cylinder – but they more than made up for that afterwards with the Hemi and the Poly. You can read all about that later.

Of course, inline engines were soon superceded by overhead valve designs which Chrysler were much, much better at. Of the first generations of these such engines, the Poly has an interesting story. It turns out that these polyspherical headed motors were an off-shoot of the Hemi, a 'little brother' – and an interim solution to not require a new block!



They were only ever intended as a smaller and cheaper version of the revolutionary Elephant.

I paired these two motors together for two reasons. The first, I have to admit, was that I didn't think I could find enough content to warrant a whole issue for each on their own (although once again it turned out I misjudged that). The second, was that these two engines actually have a real place in history together in Australia. The Flathead actually hung around here for longer, and because we never really got the Hemi (at least until we made our own or we started importing it from America during the muscle car era) the Poly was actually the 'big brother' in the Chrysler motor family for quite some time downunder. The exact opposite to how things had evolved in the States.

So, for Chrysler folks here – before the reign of the **Valiant** – if you wanted a six you got a Flathead, or if you wanted an eight you got a Poly.

And this is their story...

I hope you enjoying reading this as much as I enjoyed learning about these design classics.

Cheers,  
**Dave H**





Crikey! Is it that time already? You know, springtime when everyone's thoughts turn to, you know.... dusting off ya **Mopar** and hitting the tarmac!

If the August Saturday night cruise is anything to go by – with a massive turn out of 90-100 cars – it seems that the change to the *Club Registration* scheme twelve months ago has had the desired effect. There are more and more classic vehicles hitting our roads.

Add to that the popularity and increasing number of *Coffee N Chrome* events going on around the place, and it looks like we have a healthy community of vehicle enthusiasts in SA.

The new scheme has definitely influenced our membership with our numbers growing to around 370 at last count. That has translated into healthy attendances at our monthly meetings (averaging 70-80 each month) plus new faces turning up to club events and cruises.

Speaking of events, a big thank you to our Events Coordinator, **Damian Tripodi** for the stellar work he does coming up with things for members to do. Summarising the events for the *AGM* I came up with a list of 22 for last year – that's nearly two a month he has staged. He's an absolute machine.

While we're on events, we've had some complaints that folks out there don't know when they are on. At the September meeting I pointed out that we publish all events on our **Facebook** page, on the website home page (the *What's On* list is on the right hand side), we present a comprehensive list at each monthly meeting,

there is a list in each *Torqueback* and if you're a paid up member with a mobile phone, Damian even sends you an SMS!

The standout event for 2018 was the hugely successful *Shannon's Adelaide Chrysler Festival* at the Tonsley Precinct. While it would be sensational to have it there again, the logistics and uncertainty of what space will actually be available come February/March next year make it too risky to plan another event there. 2018 looks like it will be the one-off we always thought it would be.

So, planning is already well underway for next year's festival at a brand new and exciting venue. **Jason** and the organising committee have found a great location next to the sea in historic Port Adelaide with lots of room for cars and plenty of parking for spectators. Keep your eye on Facebook and the club website for updates and mark the weekend of 22-24th February 2019 in your diary!

Till next time, keep it Mopar!  
– **Iain**







Hi all! Time again for my Dialog.

So it's great to finally have some bloody sunshine at last! **Damian** has been busy again organising some wonderful drives around the countryside, even a trip on an old steam train for our **Xmas in July**.

We gathered at the Mt Barker Railway Station around five o'clock and boarded the train to arrive in Goolwa. We exited the train and walked to the hotel for a superb xmas meal and drinks. Once dinner was finished we walked back and re-boarded the train for a very cold and breezy ride home – no central heating in the carriages! And we arrived back at Mt Barker Station around midnight. It was a great trip and well attended, so thanks Damian.

In September we met at Old Noarlunga and headed off to Victor Harbor for the **Rock n Roll Festival**. There were live bands playing some great music, along with rock & roll dancers and some fine food to enjoy. A good day was enjoyed by all, driving and showing our **Chryslers** – along with many other vehicles.

In October is the **Bay to Birdwood** and the **Coast FM Open Day** – where no doubt a few of us will gather to display our cars at another good day for the club.

End of November is our family day which is also an enjoyable day for the whole family to attend.

And then in December we have our Xmas sleepover which is going to be at the **Anchorage Hotel** in Victor Harbour this year.

The **ACF** committee team has been putting together some ideas for **All Chrysler Day 2019** which is going to be held on Sunday February 24 at the 'Port Docks' in Port Adelaide. We have had several meetings in the area now, working out where to place vehicles, food vans and swapmeet sites.

Once again our big annual show is shaping up to be something quite different again from last year's blockbuster – but just as exciting! Stay tuned for more updates on that and meantime keep your eyes on the club website calendar for any information on club runs.



Thanks again to Damian for keeping us busy and informed with what's happening out there. He really does a sensational job.

Righto, that's all from us...

Hope you all have a good Xmas and New Year for 2019.

Safe and happy motoring in your Mopars.

– Di





### CHARLES LEE - LIFE MEMBER

It doesn't happen every year – as it takes a lot to happen. The committee have to receive a nomination. They then have to deliberate if certain criteria is met, and then vote to accept that nomination. So it's quite an extraordinary thing, but if and when it can, the club does like to award long-serving members who've made a notable contribution to the club with the CCCSA's greatest honour, Life Membership.

This year, club regular Charles Lee worthily scored a gong. Always at meetings and various shows and cruises, Charles has had a very long association with Chrysler and associated marques, right up to some of the more modern Mopars like his beloved 2001 Neon, that still runs like a charm!

I caught up with Charles to celebrate his ascension to life member and hear about his Mopar journey... as well as some of his experiences with the old engines like the flatheads that we're paying tribute in this issue of Torqueback.

"Well I guess it started around 1964 or 1965, before I got a licence," Charles begins. "My dad bought a 1938 Chrysler Plymouth, primarily to get the tyres for his 1936 Chev roadster, which was our first family car. Being a roadster, it had a dickie seat, and I remember me and my cousins and my brother used to ride in that. So we sort of started off as a Chev family. Later on he bought a 1948 Chev Fleetmaster sedan, but then he bought this Plymouth 1938 with the flathead side valve. I started to tinker with it, and got it going – and actually used it to drive a 32V generator by putting a belt around the rim on the back wheel, and running it in top gear at probably 40 miles an hour. Enough to drive a generator, and we used to use that for welding!"

"I got my licence in that in 1966," he continues, "and then we were able to get the Plymouth up to where it could be driven on the road, got it registered, and I used to drive that to high school. I put an old radio in it, and used to take it down to the beach, at Millicent in the south east. "

"There was also a guy who lived down the road who had a 1928 Chrysler sedan. An old black and square gangster-type sedan, which he used to drive to my cousin's place nearby – and we used to drive down the coast and over the sand dunes. I was really impressed as this Chrysler was able to get basically to the top of any of the steepest hills, and so it was that which started me into Chrysler."

It was the start of a life-long connection to **Chryslers**, and Charles has owned his fair share of fine Chrysler vehicles.

"I first bought a 1956 Plymouth Belvedere, assembled here at Keswick," Charles recalls. "An Australian-assembled Plymouth Belvedere, with the 250 cu in side-valve six-cylinder and a two-speed Powerflite transmission. It didn't have park – they just had first, drive, and reverse; the handbrake was an internal expanding drum handbrake on the tailshaft, so you always had to pull the handbrake on when you stopped!"

"I had that for about 18 months, and then I bought an AP5 Valiant. It was an ex-police base-model Torqueflite auto slant-6, and I had that for a couple of years, before trading it on a 1965 AP6 Regal wagon."

"I kept the AP6 wagon until around 1973, and traded that in on a VF Pacer. The colour of which is unusual in that it was called lime yellow [not his current one, which is interestingly the same colour!]. Normally Pacers were red, blue or white, and they painted some this lime yellow. This one had a vinyl roof, a heater – which would have been dealer fitted, and I used that until 1980 when I bought a 1978 CL ex-SA police 318 V8 wagon, which I've still got – but is in retirement. The CL wagon was our main vehicle. It took the children to school and we used to regularly drive it between Millicent and Adelaide."

While honing his hobby of working with his cars, Charles had started an apprenticeship as an electrician, and quickly found his niche working with car radios.

"I started out as an apprentice and then moved into radios," Charles explains, "as I found I was better at diagnosing faults in something that had already been designed and built than trying to get conduits up walls and get things straight. Not to mention working in ceilings that were boiling hot. For a local electrical retailer, I became quite familiar with the 'big three' cars – Holden, Ford and Chrysler – fitting aftermarket car radios such as HMV and Ferris. The Ferris portable car radio you could even take out of the cradle."

"So I was installing those and repairing those, installing the aerials, and repairing motorised aerials – which were crude but they worked, until you got water in them!"





Charles had always been innovative – and a hands on kind of guy getting right into the technical side of things, so it's little wonder he's shared his passion for his cars too.

He and his mates even created a local area phone network when he was a youngster! *"I started with batteries and lamps and motors,"* Charles begins. *"We used to get the old telephones – wall telephones, for 10 shillings. You could order them from the post office, but you had to wait an eternity (about three months) to get it. Then we used to get the big old telephone batteries, and some extra bits, and connect up these phones and talk to each other!"*

These days, modifying and installing stereo systems for cars has become a specialty and an important car subculture, led mostly by young guys hotting up their cars. Things weren't so different in days gone by...

*"Most radios came with an installation kit,"* Charles remembers, *"so you got your HMV radio, and it came with a kit designed for say an XP Falcon or a VE Valiant, which would be slightly different but would have been engineered for that car. You'd get the radio, the aerial, the nuts and bolts to install it in the dash, the backstrap to hold it, and the speaker that went up under the dash at the front – and that was it. If you wanted a rear speaker, you could buy that as an accessory kit, with a fader control between front and rear, and that would live in the rear parcel shelf behind the seat. If you wanted to, you could probably upgrade to an 8-track cartridge player, but I never installed any super amplifiers, woofers or anything like that! Any base model, including Valiants, Falcons and Holdens, usually didn't have a radio. And until 1968, I don't think you even got a heater! Working with radios, back then they were a dime a dozen, lying around on the shelf. But now? If you want a radio for a Charger, it'll be \$300!"*

Having had a big cross section of vehicles, Charles has had an opportunity to work on a few different engines – including flatheads.

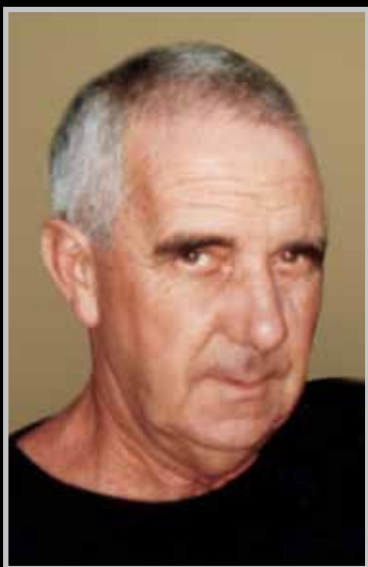
*"Initially, with the 1938 Plymouth, I did dismantle it. Took the pistons out and cleaned the piston rings as it was a bit smoky,"* Charles explains. *"I didn't have anything to measure the bearings and just tightened the big end bearings up until they felt they were tight enough, and it ran well!"*



Turns out, the flathead wasn't the easiest beast to work on...

*"If you took the head off, that was good,"* Charles admits, *"but to try and grind the valves, you really needed to take the engine out of the car. They were down the side, and you'd try to get the valve lifted and get it out was a terrible job! And they used to suffer from timing chain wear, where it could get to the point where the timing chain would jump a tooth! Interestingly, number 6 cylinder has a little plug in the top of the engine block, and it was interesting to unscrew the plug and start the engine, as you'd get these flames that would come out when number 6 fired! You could almost colour-tune the engine from the flame! I didn't really have a lot of experience with the flatheads as they were pretty reliable. Not all that powerful, but I think I had about 8 drags with other Holdens and young guys, and I won about 6 of them! And FE Holden and the smaller Holdens were not a match for the Plymouth!"*

– Luke



## SO LONG OLD FRIEND...

Vale **David Whelan.**

It is with sadness that the CCCSA announce the passing of David Whelan.

Dave will be known to many of our members, particularly those that were around in the early 2000s during the introduction of the *Historic Registration* scheme when he was Club Registrar. Dave did a lot of work in those days laying the foundation for the implementation of the scheme in our club, and was a passionate advocate for having a fair and equitable process for inspection and inclusion of as many vehicles as possible.

*Dave was a genuinely good bloke, tough as an old boot, but always had a generous and genuine manner. I will always remember him in jeans, wearing that great big Santos Moomba belt buckle, ciggy in the side of his mouth, either philosophising or just having a bit of a joke... he will be remembered fondly.* – Steve de Wit

Dave passed away peacefully after a seven year fight with dementia on the morning of Saturday, 28th July at 86 years of age. Our sincere condolences to his family and friends.

We'll miss him.



### THE CHRYSLER FLATHEAD

A flathead engine, otherwise known as a sidevalve engine, is an internal combustion engine with its poppet valves contained within the engine block – instead of in the cylinder head, as in an overhead valve engine. In a flathead motor, the head is a flat piece of cast iron that is bolted down on top of the block. The valves and the entire valve train are in the block itself; the head is relieved to allow for compression and for valve clearance, but it contains no moving parts (except the thermostat). The head is partially hollow to allow coolant to pass through to assist in cooling the engine.

The L-Head motor, or what is more commonly known as a “flatty”, was the mainstay of most auto manufacturers before World War Two.

Virtually all early car motors were flatheads, and the flatty stuck around for a long time. The most famous flathead was probably that of Ford’s due to the sheer number of them made. But few L-head engines had the staying power of the Chrysler Corporation’s *Flathead Six* which began production in 1929 for DeSoto (curiously, both these motors were designed by the Dodge brothers). And as late as 1972, the Chrysler flatty was still being produced for industrial uses such as stationary pumps, arc welders, forklifts, and farm equipment such as harvesters and combines. Indeed, parts are still available on the shelves of auto parts stores.

Though it may have been the best design in its early days, the flathead was destined for doom because of its design limitations as the fabulous fifties began to roar. While Ford’s flathead V8 dominated, Chrysler’s flathead eight was never as good as its flathead six and the public’s desire for more power prompted Chrysler to produce the legendary Hemi in 1951. The Hemi powered Chrysler 300 in 1956 was then the most powerful and fastest production car in America ever that year, averaging 140mph at Daytona.

Sidevalve designs are still common for many small single-cylinder or twin-cylinder engines, such as lawnmowers, rotary hoes, two-wheel tractors and other basic farm machinery but this early design concept has now mostly fallen into disuse.

Although they are currently experiencing a revival in low-revving aero engines such as the D-Motor.

#### *The side-valve design*

The valve gear comprises a camshaft sited low in the cylinder block which operates the poppet valves via tappets and short pushrods (or sometimes with no pushrods at all). The flathead system thus removes the need for further valvetrain components such as lengthy pushrods, rocker arms, overhead valves or overhead camshafts).

The sidevalves are typically adjacent, sited on one side of the cylinder(s); but some flatheads employ the less common “crossflow” T-head variant. In a T-head engine, the exhaust gases leave on the opposite side of the cylinder from the intake valve.

The sidevalve engine’s combustion chamber is not above the piston (as in an OHV engine) but to the side, above the valves. The spark plug may be sited over the piston (as in an OHV engine) or above the valves; but aircraft designs with two plugs per cylinder may use either or both positions.

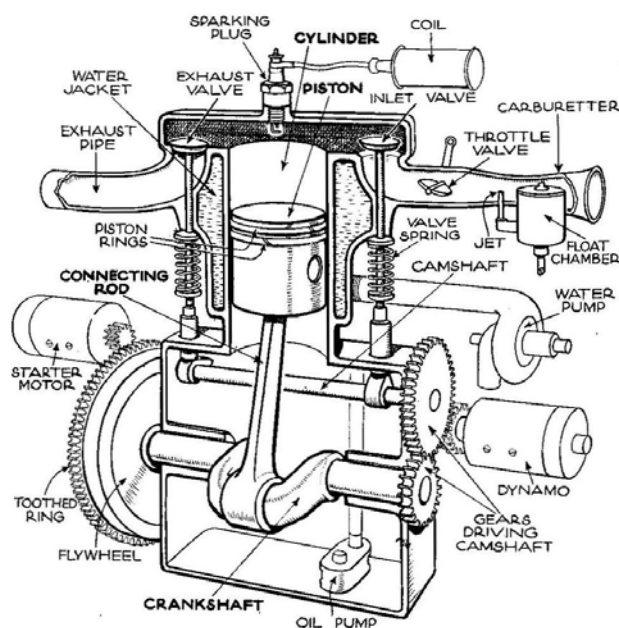
“Pop-up pistons” may be used with compatible heads to increase compression ratio and improve the combustion chamber’s shape to prevent knocking. “Pop-up” pistons are so called because, at tdc, they protrude above the top of the cylinder block.

#### *Advantages*

The advantages of a sidevalve engine include: simplicity, reliability, low part count, low cost, low weight, compactness, responsive low-speed power, low mechanical engine noise, and insensitivity to low-octane fuel. The absence of a complicated valvetrain allows a compact engine that is cheap to manufacture, since the cylinder head may be little more than a simple metal casting.

These advantages explain why side valve engines were used for economy cars, trucks, and agricultural engines for many years, while OHV designs came to be specified only for high-performance applications such as aircraft, luxury cars, sports cars, and some motorcycles.

At top dead centre, the piston gets very close to the flat portion of the cylinder head above, and the resultant squish turbulence produces excellent fuel/air mixing. A feature of the sidevalve design (particularly beneficial for an aero-engine) is that if a valve should seize in its guide and remain partially open, the piston would not be damaged, and the engine would continue operating safely on its other cylinders.



*A crossflow T-head sidevalve engine*

#### *Disadvantages*

The main disadvantages of a sidevalve engine are poor gas flow, poor combustion chamber shape, and low compression ratio, all of which result in a low-revving engine with low power output.

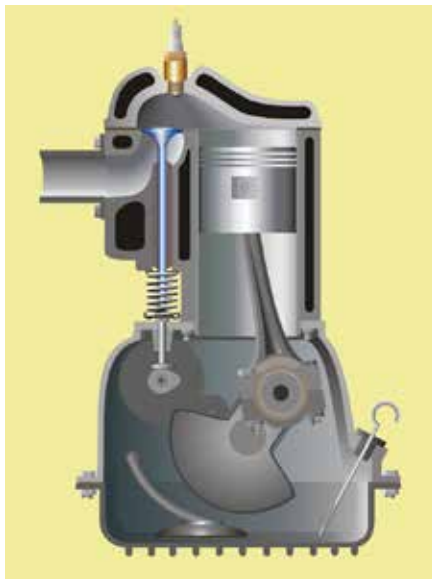
In a sidevalve engine, intake and exhaust gases follow a circuitous route, with low volumetric efficiency, or “poor breathing”, not least because the exhaust gases interfere with the incoming charge. Because the exhaust follows a lengthy path to leave the engine, there is a tendency for the engine to overheat.

Although a sidevalve engine can safely operate at high speed, its volumetric efficiency swiftly deteriorates, so that high power outputs are not feasible at speed. High volumetric efficiency was less important for early cars because their engines rarely sustained extended high speeds, but designers seeking higher power outputs had to abandon the sidevalve.



A compromise used by the **Willys Jeep**, **Rover**, **Landrover** and **Rolls-Royce** in the 1950s was the *F-head* (or “*intake-over-exhaust*” valving), which has one sidevalve and one overhead valve per cylinder. The flathead’s elongated combustion chamber is prone to preignition (or ‘knocking’) if compression ratio is increased, but improvements such as laser ignition or microwave enhanced ignition might help prevent knocking. Turbulence grooves may increase swirl inside the combustion chamber, thus increasing torque, especially at low rpm. Better mixing of the fuel/air charge improves combustion and helps to prevent knocking.

An advance in flathead technology resulted from experimentation in the 1920s by **Sir Harry Ricardo**, who improved its efficiency after studying the gas-flow characteristics of sidevalve engines.



*Flathead with Ricardo's turbulent head*

The difficulty in designing a high-compression ratio flathead means that most tend to be spark-ignition designs; and flathead diesels are virtually unknown.

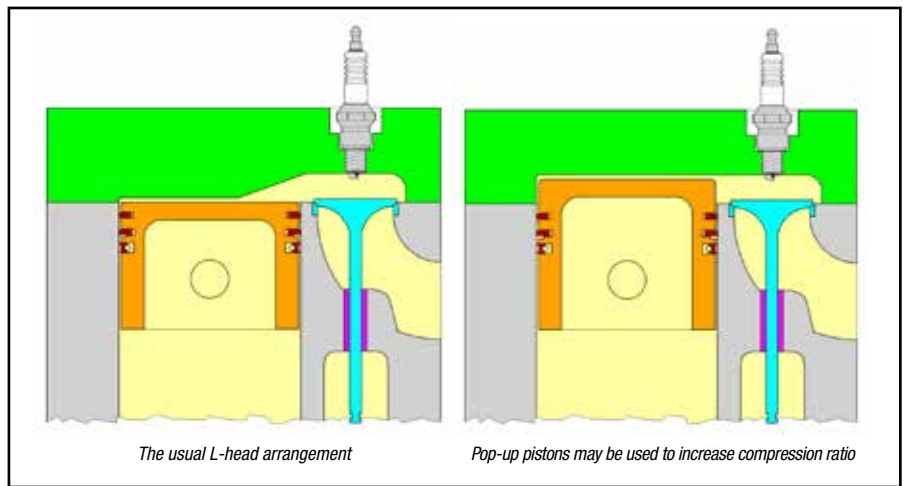
### History and applications

The sidevalve arrangement was once the most common across all motor industries (automotive, agricultural, marine, aviation, and others), but has since about 1930 it fallen from favor in most multicylinder applications, such as automotive and aviation, having been displaced by overhead valve designs.

Sidevalve designs are still common for many small single-cylinder or twin-cylinder engines, such as lawnmowers, rotavators, two-wheel tractors and other basic farm machinery. **American LaFrance** powered their fire engines with T-head engines from the 1920s to the 1950s; and early **Stutz** engines were T heads.

### Flathead airplanes

The simplicity, lightness, compactness and reliability might seem ideal for an aero-engine, but because of their low efficiency, early flathead engines were deemed unsuitable. One notable exception being the **American Aeronca E-107** opposed twin aero engine of 1930.



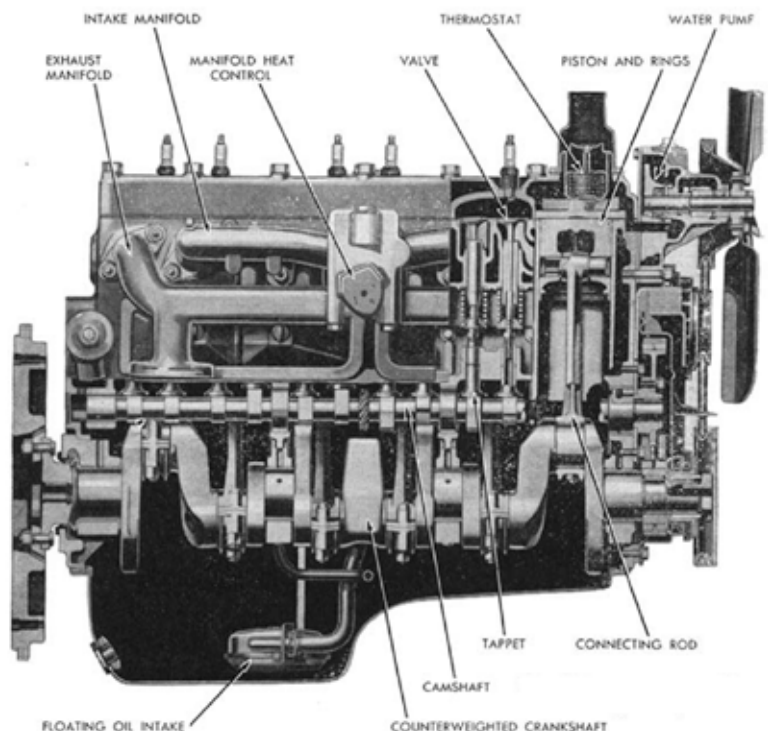
Two modern flatheads are the **Belgian** D-Motor flat-fours and flat-sixes. These are extremely oversquare and compact aero-engines with direct drive to a propeller. As these engines were designed to produce peak power at only 2800 rpm, their very low engine speed meant the designers could dispense with the complexity and weight of an OHV valvetrain.

### Flathead motorcycles

Flathead designs have been used on a number of early pre-war motorcycles, in particular US V-twins such as **Harley-Davidson** and **Indian**, some British singles like **Norton** and **Triumph**, **BMW** flat twins and Russian copies thereof. The **Cleveland Motorcycle Manufacturing Company** produced a T-head four-cylinder in-line motorcycle engine in the 1920s.



*With the V Twin, bikes like the Indian Chief Blackhawk and it's Harley Davidson cousins pollinated the innovation behind flatheads in cars.*



*Chrysler's most famous flathead, the 1956 Plymouth Powerflow Six*

## Flathead cars and trucks

Multicylinder flathead engines were used for cars such as the **Ford Model T**, namely the Ford flathead V8 and the Ford sidevalve motors. **Cadillac** produced V16 flathead engines for their **Series 90** luxury cars from 1938 to 1940. After WWII, flathead designs began to be superseded by ohv designs. Flatheads were no longer common in cars, but they continued in more rudimentary vehicles such as off-road military **Jeeps**. In US custom and hot rod circles, restored examples of early Ford flathead V8s are still common.

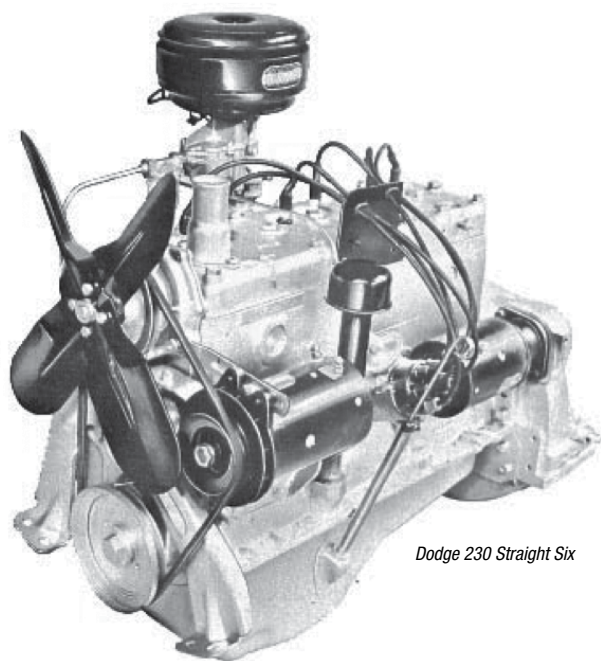
What made the flathead so versatile was its dependability and torque. The largest flathead six **Chrysler** used in its cars was 265.5 cubic inches that produced 218 ft/lbs of torque at 1600rpm. So, at just off idle, this engine produced maximum torque, making it ideal for industrial use. In comparison, the last flathead 8, produced in 1950, with 323.5 cid and 270ft/lbs @ 1600 rpm. Although the 8 was more powerful, most people found the smooth power produced by the six was sufficient (and far more economical) so a vast majority of older Chryslers found today are equipped with sixes.

The flathead eight-cylinder engine was used in a large variety of vehicles. Because it was a straight-eight (not a V8) design, the revolutionary **Airflow** models actually had to be lengthened to accommodate it.

*Flatheads certainly are NOT archaic and they certainly CAN be exotic. Check this out. Aussie rodding legend Rod Hadfield built this modified Fiat Topolino called the Fire Chief. Its extended nose houses a Flathead V12, but it's not just incredible because it's an inline 12. The handsome 8636cc (527 ci) motor is from a classic American LaFrance fire engine – taking L-head engine-design to a whole new level of sophistication. A slim 45-degree V12, featuring twin plugs, twin distributors and four coils, it's switchable between 12-cylinder and 6-cylinder operation. Standard, it usually has twin Zenith carburetors – but Rod's is fuelled by five (yes, five) old-school Stromberg 97s. This rod is nuts.*



After World War II, the 251.6 and 265.4 cubic inch engines used in **Dodge** medium and heavy duty trucks were equipped with sodium cooled exhaust valves and stellite seats. The hollow exhaust valve stems were filled with metallic sodium metal which would liquefy at operating temperature and transmit the heat up the stem and through the valve guide to the water jacket.



Dodge 230 Straight Six

Because of the long stroke, heaps of torque was available at low rpm. Especially ideal for delivery trucks with heavy loads. These old engines were dogs on power but would run forever, especially when fueled with LPG. Getting one started on a zero degree morning in winter was an exercise in patience.

Larger trucks used another family of in-line flathead six cylinder engines. There was a 331 cubic inch and a mammoth 413 cubic inch lugger was available in the T series and up. There may have been another engine in the 370 CID range, but I am not sure about that. The 331 was highly regarded in trucking circles as a durable, hard working engine. The 413 was equipped with two single barrel carburetors and had a very large appetite for gasoline. It was noted for twisting the drive sprocket off the end of the camshaft.

Chrysler's move into the six-cylinder, low price field was so unprecedented that **Automotive Industries** magazine devoted many pages of their February 4, 1933 issue to the machinery installed in the Plymouth plant. Machinery which would not only produce the 6-cylinder engine but would cut Chrysler's cost of producing those engines to a point to make it worthwhile in a low priced automobile. What makes that truly amazing is the fact that it was done in the depths of the Depression — **Walter Chrysler** believed in keeping workers busy and paid.

The big news for the year 1933, then, was the introduction of the Plymouth 6-cylinder engine. The valve-in-block engine displaced 189.8 cubic inches from a bore of 3 1/4" and a stroke of 4 1/8". With the standard compression ratio of 5.1 the engine, which retained the **Silver Dome** name, pumped out 70 horsepower at 3,600 rpm. With the optional aluminum "**Red Head**" the compression ratio jumped to 6.5 while the horsepower increased to 76.

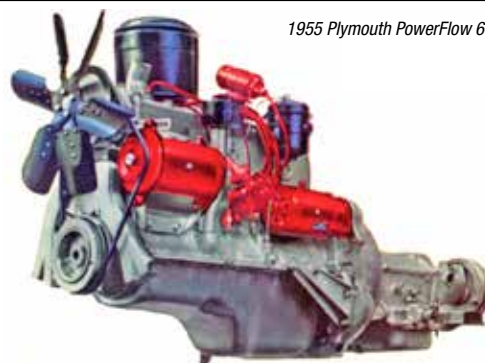
The engine used a redesigned water pump for better cooling efficiency, aluminum alloy pistons and had a new first as it was fitted with insert bearings on the main and connecting rod bearings, as well as the first camshaft bearing. Power was transmitted from a 9" dry clutch plate through a three speed transmission with helical gears for smooth, quiet operation.

### The Straight Six

Here's an example. A 218-cubic-inch flathead six was used in a 1951 Plymouth **Cranbrook**.

Beginning in 1938, the 201 cu in (3,293.8 cc) inline 6 was used in **Massey Harris's** Model 101 (later known as the **101 Super**). It continued to be used by **Massey** until 1940, when it was supplanted by the 217 cu in (3,556.0 cc). In 1940, Chrysler's 242 cu in (3,965.7 cc) straight six went into Massey's **201 Super**, which lasted until 1942.

The last automotive use of the Chrysler flathead inline six was in 1960. It was replaced by the much more efficient OHV slant-6 the following year, which appeared in most Dodge trucks starting in 1961. The flathead remained in production until the early 1970s for industrial and agricultural use.



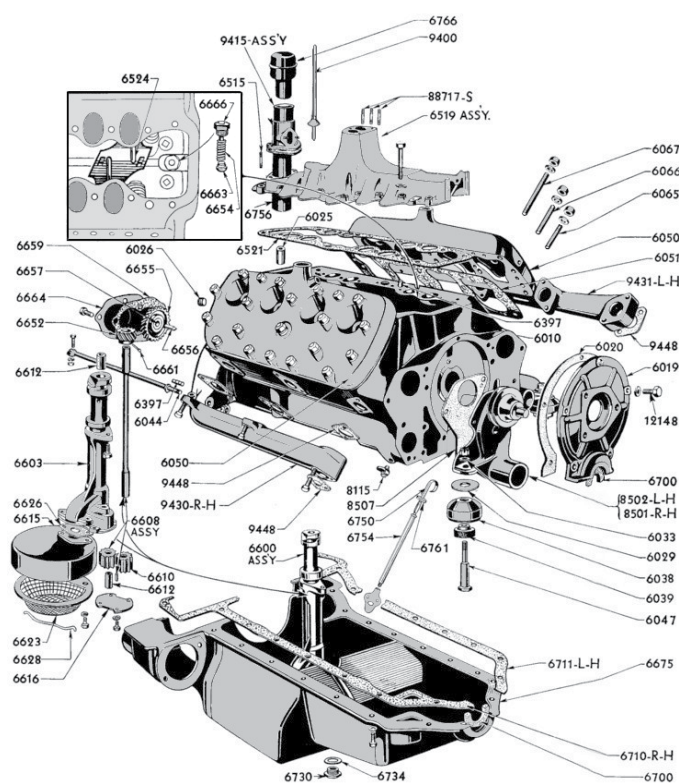
1955 Plymouth PowerFlow 6





Chrysler's biggest flathead, the inline 8-cylinder 5.3 L engine, was used on cars such as **Airflows**, **DeSotos** and Imperials. Because of its side valves and aluminium pistons, this was a low-rpm engine that produced about 120 hp (89 kW).

The engine was on **Ward's** list of the *10 best engines of the 20th century*. It was a staple of hot rodders in the 1950s, and it remains famous in the classic car hobbies even today, despite the huge variety of other popular V8s that followed.



# ***ford. the usurper***

## **THE FLATHEAD**

### AND THEN THE V8 FLATHEAD TAKES OVER...

It took a while, but after more and more speed equipment was made available to make Ford's Flathead V8 engine go faster, it became the predominant engine of choice for a lot of hot rodders. And remained the common denominator for most performance mods right up until the Hemi and small-block Chevy came along.



Speed equipment for **Model T Fords** was available since the 1920s, **Model A** four cylinder stuff since about 1928 but very little was available for the flathead V8 until about 1939.

By then, **Eddie Meyer**, **Jack Henry** and **Tommy Thickstun** were offering dual manifolds, **Pierre "Pete" Bertrams** was selling reground camshafts, **Tom Spalding** was making dual coil ignitions (by taking the **Lincoln Zephyr** coils and putting them onto a Ford distributor), and **Eddie Meyer** started casting high-compression aluminum heads.

During the same time, **Vic Edelbrock** built his first dual intake manifold (the now famous "*slingshot*" intake) and by 1941, dual intake manifolds were also available from **Phil Weiand**, **Mal Ord** and **Dave Burns**.



Having a hopped-up Model A engine, you were still slower than a virtually stock flathead V8 engine, even if you had an overhead valve conversion and all the other odds and ends that were available in the four banger world.

If you had one of the better OHV conversions, maybe a four-port from **Riley**, **Fargo** or **Rutherford**, your four cylinder engine produced about 100 hp or more. Raising this even higher, durability problems started setting in. The flathead V8 could be made to produce as much if not more power with a lot more reliability than any four banger could.



The flathead engines had two big problems that had to be taken care of: Poor breathing, caused by the basic flathead engine design, and overheating caused by the exhaust passages through the water jackets.

It took time, but hot rodders managed to minimize if not completely eliminate both problems. The Ford and **Mercury** flathead V8 engines were not state-of-the-art production engines and were already old-fashioned technique already by the late 1940s when OHV engines started coming out.

Still, a properly and meticulously set up flathead engine was a great racing engine, particularly for the money spent.





### END OF AN ERA

When Cadillac and Oldsmobile introduced overhead valve V8 engines in 1949, the interest in flathead V8s quickly started to decrease. In 1951 Chrysler introduced the HEMI and the interest in flathead engines decreased even more. In this day and age, flathead engines are kind of making a comeback, not only because of purity but sometimes also because of the legal requirements some countries have for modifying cars.



By 1952 things had definitely started to change: At Bonneville there were five Chrysler V8s, four Cadillacs and two Olds Rocket V8s. When the 1953 Bonneville program was printed, the future of hot rod engine competition was set to become an OHV thing: The listed entries included 17 Chryslers, 7 each Cadillac and Olds, one Lincoln, five DeSotos, one Dodge, and four Studebakers – all OHV V8s.



There were still some overhead valve conversions available for flathead engines: **Adams-Moller C-T**, **Ardun**, and the **Lee Chapel** Tornado-equipped flathead, but as good as these were, they were still stopgaps before the factory overheads took over. It probably isn't a fair comparison to call these conversions "*flatheads*" anyway, even though they were adapted to a flathead block.

Most of the dry lakes and **Bonneville** competitors were capable of making their own intake manifolds, or any other pieces they needed to extract power from these new engines, and they started realizing extra performance almost from the start. Those who had to depend on buying ready-made speed equipment for a given engine simply had to wait until the manufacturers started building equipment for the OHV engines.

After the **Mopar Hemis** the next onslaught to the flathead was the small block **Chevy V8** which came out in 1955. Due to its light weight, compact dimensions, and performance potential, it was the next "*Great American racing engine*" after the flathead Ford. Because of the exterior dimensions the Chevy V8 became the engine of choice not only for racers, but as replacements for Ford engines in street rods and customs.

Unfortunately, the era that ushered in the OHV engines from Detroit also brought in strong financial involvement from the same manufacturers and from other related industries, a situation that made racing easier for a select few, and much harder for those not chosen to be part of the act. Racing wasn't as much fun as it had been.

With the introduction of these new engines, it became a simple matter to buy an off-the-shelf engine which, with very minor alterations, would produce more power than the old guys used to get from a flathead V8 or a four-banger after weeks, months or maybe years of experimentation. By the end of the fifties, one could buy a new car from a dealer that was faster than most of the Hot Rods that were made a decade earlier.

Today, flatheads are making a return as traditional period correct hot rodding is kind of en vogue now again. Especially in countries where laws are tough. For example, you can't put a blown Hemi in your Model A and drive it on the streets in Switzerland, so a lot of folks there choose to run Flatheads and build their car as traditionally as possible. Ironically!





### SORRY, SANS FLATHEAD...

With the world of customs dominated by GMs and Fords, it's always a nice surprise to see a builder venture outside of the 'norm' (yes I know – somewhat of an oxymoron in regards to customs) and build a car from a lesser known and recognised platform like Mopar. Its even sweeter when the gamble pays off and comes out looking like Phil Bell's 1947 Chrysler Royal Business Coupe

Confession time. Although this model rolled off the line powered by a classic Flathead, as with most street rods today this feature car's heart actually is now a transplanted small-block Chevy. Seems it's really hard to find a trick flattie nowadays.

But we didn't think you'd mind. It's close to the theme of this issue – sorta. Details, details...

Back in 2005, American **Phil Bell** put the word out that he was in the market for a late 40s model **Mopar**.

A call soon came in from his friend and fellow **Farm Boys C.C.** member, **Shane Taylor**. Shane located a '47 **Chrysler Royal Business Coupe** in Burley, Idaho – that he thought might foot the bill but it would take more than just a general restore – this one needed a resurrection.

Phil took a look at the car and initially passed, but a year went by and nothing had captured his interest. So he went back in April of 2006 and \$800 bucks later, was the proud new owner of a rusted out, windows busted, '47 coupe that was up to it's axles in dirt.

Since Shane helped find the coupe, it only seemed fitting that he let Phil use a spot in his shop, **Wrecked Metals**, to begin the resurrection.

So for the next 5 months Phil would leave his day job as a barber and spend the rest of the night at the shop working on the coupe. His buddy **Matt Whitlock** chipped in on the bodywork, helping mold in the fenders as well as with nosing the decking the coupe.

A **Camaro** clip was welded in up front which offer performance upgrades such as power steering and disc brakes.

Phil's coupe rolls on 15" reverse OEs from **Wheel Vintiques** with **Coker** bias ply wide whites. The lowered stance is achieved through de-arched leaf springs in the rear and up front a coil and a half were cut from the factory springs. Suspension upgrades are on deck for future modifications to the coupe including a 4-link in the rear with coilovers at all four corners.

Where the original 251 *L-head* Flathead Six once resided, the modern staple of performance – a small block **Chevy**, now lives. Except Phil wasn't content with just a general run of the mill 350. So he stroked the SBC to 383ci with a **Comp** cam and **Weiland** intake manifold topped off with and **Edelbrock** 4bbl. A TH400 handles the built small blocks power and since Phil and his Chrysler have made several long haul trips to California, Bonneville, and Washington, 2.73 highway gears fill the Camaro rear-end to keep the MPG's in check. Although more revered for its reliability and durability, the Chrysler's L-head made a period-respectable 114hp and 204lbs/ft at just 1200rpm.

The subtle touches to the interior keep the traditional theme. White tuck and roll patterns with black trim courtesy of **Sean Rodgers** line the cabin. Instead of taking the knock-off repro or street rod route, Phil put in some legwork and tracked down a **Pontiac Chieftain** steering

wheel from **Vintage Auto** salvage yard in Mountain Home, Idaho – that adds true 50s custom styling to the interior.

The chrome spear running nearly the length of the Chrysler added a smooth flush look from the factory so Phil opted to retain the spear and the door handles. Outback, the 'fatback' rear has been decked, the taillights frenched and Phil added a good dose of pinstriping. The front was nosed and all badges were shaved creating smooth lines at all corners of the Plymouth. Phil selected Copper Pearl with a satin finish to shoot the revamped coupe with, and just as with every other stage of the coupe, Phil loaded the paint guns and sprayed it himself.

In speaking with Phil he's quick to point out he could not have built this rare traditional kustom without the help of his brothers from the **Farm Boys C.C.** Although it's a smaller club, it's a tight group of friends that lends their respective skill set when needed. And if you know a little about the history of the culture – that's exactly how it all started.

For a quick look at what \$800 buys in the form of a 1947 vintage tin, take a look over the page at the Chrysler Royal when Phil picked it up.

You gotta have vision!







### TEMPORARY SUBSTITUTE

It's interesting to note that the Poly really began its life (in the US anyway) as something of a 'clayton's' Hemi. A smaller and cheaper version of the revolutionary Elephant – to be produced virtually as a stopgap solution. But the Poly became much more than that here in Oz when it was first imported in the famous Forwardlooks.

This motor would become a pioneer in aussie motoring. It was a robust engine absolutely ideal for Australian conditions, with the perfect balance between power and economy. "Mr Fins" Herman Kloss concurs (even though his '58 deSoto had a 350 Wedge) that the Poly *"can be a great motor – same as our LA bottom end nearly... and only with slightly different heads."*

Chrysler's first V8 engine was the "dual rocker," now known as the original Hemi.

Developed from Chrysler's aviation research, this very efficient powerhouse had roughly hemispherical heads, opposing valves, and a complex valvetrain that used dual rocker arm shafts for each cylinder.

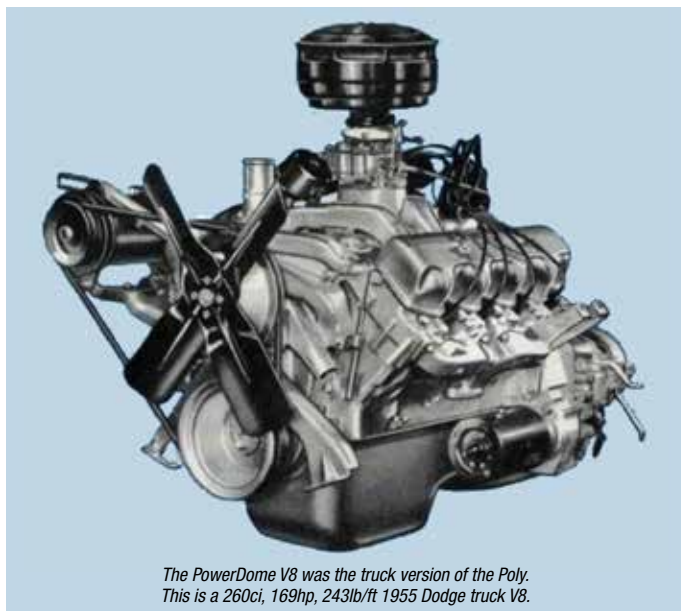
The Hemi was a premium engine, well engineered – but costly, because eight-cylinder engines had only been used in premium cars. Most base cars had four or six cylinders; so spending some extra time and money on building a better V8 made sense. But Chrysler had not counted on just how popular the V8 would be, or how much it would drive sales.

It took little time for Chrysler to realise their mistake, and the engineers quickly got to work on dropping costs and increasing output.

#### The Poly

Their first move was to create a cheaper and lighter head and valvetrain, for the same engine blocks. Dubbed the *Poly* (due to its polyspherical heads) or *"semi-hemi,"* the new design had rounded, circular combustion chambers, like the Hemi; but they only had one rocker arm shaft, instead of the Hemi's two. To make the change, they put the intake valves on the top of the rocker arm and the exhaust valves on the bottom. The results were lower expense, less weight, and higher production. The cost was a slight loss of efficiency.

The heads had canted valves in a cross-flow arrangement, gaining some of the advantage of the hemis, but much less expensive to make (this design would make a comeback in the 4.7 litre V8). They also had low friction valve locks to allow for valve rotation, extending their life. Chrysler claimed the rounded combustion chamber prevented carbon deposits.



The PowerDome V8 was the truck version of the Poly. This is a 260ci, 169hp, 243lb/ft 1955 Dodge truck V8.



The Hemi was born out of Chrysler's R&D during World War Two to provide a new radial powerplant for the Republic P47 Thunderbolt.

The 1958 354 engine was available in both Hemi and Poly form; with four barrel carburetors. The Hemi produced 350 horsepower, and the Poly just 310. Still, the Poly was much cheaper and lighter, and the company could make larger engines to replace the lost power.

The bottom of the valve covers were scalloped so the spark plugs were accessible from the top — unlike **Ford** and **Chevrolet** V8s, whose owners had to reach under hot exhaust manifolds to get at the spark plugs.

Cylinder heads and intake manifolds were interchangeable with any Hemi engines that had the same deck height. However, the new design meant they didn't need spark plug tubes; pistons and rods were less expensive; and the heads were cast rather than being machined. Most used a two-barrel carburetor, because the Hemi was the performance engine.

So it seems the Poly headed engines were an interim solution, not requiring a new block! You have to remember that this was happening in 1953-1954, as Chrysler was planning a V8 for the '55 **Plymouth**. It's flagship car. They still had six or seven years to go with the archaic Flathead 6 which came out in the early 1930s, so they weren't thinking very new; they were looking for a cheaper version of the existing Hemi.

This is why the 1955 Chevy V8 turned out to be so far advanced. Chevrolet came out with a whole new design, which Chrysler sort of finally arrived at with the Wedge 273 in 1964, nine years late. Sure, the Y block Ford overhead-valve V8 was rubbish when it came out in 1954, but it improved — and the 312 became a pretty good engine in stock cars.

The Chrysler version was named the *Spitfire* and the first car to get it was the 1955 **Windsor** — the lowest Chrysler. The 1955 Chrysler poly was a 301 with 188 horsepower and 275 pound-feet of torque. **Dodge** truck's version displaced 260 cubic inches, generating 169 hp and 243 lb-ft of torque; it had various measures to increase durability, including added coatings, different metals, and valve rotators.

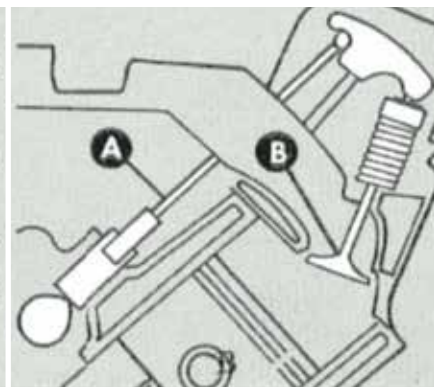
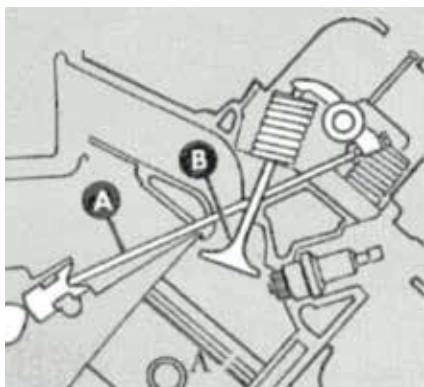
The 1956 cars saw a larger-bore version of the 301, displacing 331 cubic inches — but that wasn't the end; it was bored again, to 354 cid, for the 1957 cars, reaching 290 hp and 385 lb-ft in the Windsor (the **Saratoga** used a four-barrel carburetor to produce 310 hp, 405 lb-ft of torque).

Dodge cars got an A388-coded 270 cubic inch version, with 175 hp and 240 lb-ft of torque.



The next generation of Chrysler V8 engines were designed to have lower costs and much higher production; they had the same heads, but numerous changes to allow for more automation in the factory. They, too, had polyspherical heads — but while the blocks were an evolution of the Hemi V8 design, they were not the same.

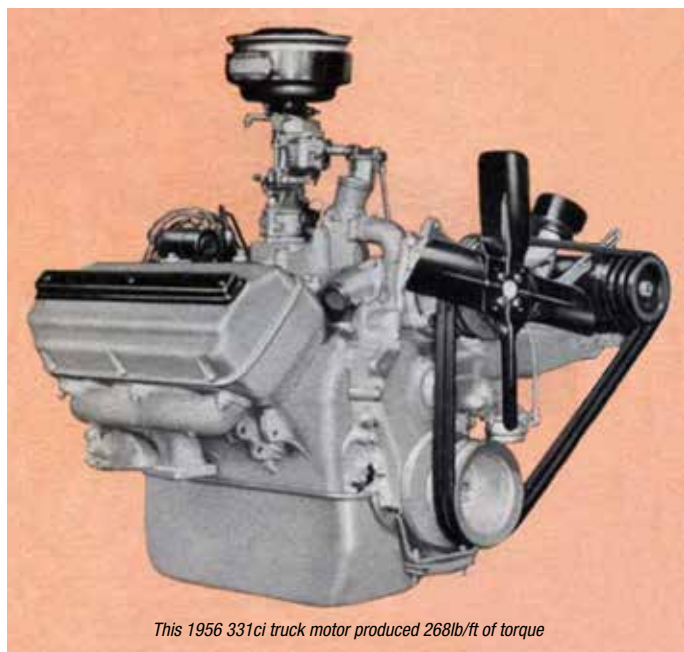
These were informally, and later formally, called the 'A' engines. With their lower cost and higher production volume, the A engines quickly replaced the older, Hemi-based Poly *"semi-Hemis."* The 1958 Dodges would be the last cars to carry them; in 1959, Dodge and Plymouth adopted the new A-engines. While Chrysler and DeSoto had already moved over to a new 'B' motor. The Poly's days were numbering.



Comparison — Poly head design on left; Wedge head design on right. Dodge's 318 on the left opened the intake valve further than its equivalent wedge on the right.

Engineer **Pete Hagenbuch** wrote: *"I don't know who invented the word 'polyspherical' but the design was supposed to maintain the characteristics of the true hemi with one rocker shaft and attendant cost savings. What it wasn't was a wedge chamber with inline valve stems."*

The Chrysler Jefferson Avenue and Dodge Main plants each had their own poly when the new A engine, built at the brand new Mound Road engine plant, came out. That was a Poly also — of 277 cid. What Chrysler was learning was the old Yankee creed, *"There ain't no substitute for cubic inches,"* and at a time of ridiculously low gas prices, nobody cared (about efficiency).



This 1956 331ci truck motor produced 268lb/ft of torque

After 1955, it gets a bit blurry. Dodge's Hemi got to 315 cid, Desoto's to 341 cid, and Chrysler had a 354 cid in 1956 and 392 in 1957 and 1958 (Imperial and 300D only in 1958). In 1958, the B engine arrived as a 350 cid and 361 cid. Other Dodges got the 325 cid A engine from Mound Road.

While 1958 Dodge **Coronet** and **Royal** models used Dodge's 325 poly, the **Custom Royal** used the Ram-Fire 350-cid V8 (a B engine) in the US. and the 354 poly in Canada. The 361 V8 B engine was optional across the board in the US. The 350 B engine was also used in the 1958 DeSoto **Firesweep** while other models used the 371 and the Canadian-build **Firedome** used Chrysler's 354 Poly.

Every division in Chrysler Corporation was fighting to have their own version of the *"cheap hemi."* When you worked on a 330 Hemi V8 out of a DeSoto, no parts were interchangeable with a 331 Hemi out of a Chrysler — not even a valve cover gasket. How foolish was that?

If you look at an A engine and a late LA 318 upside down — except for the core plugs and the engine mount tabs — they are virtually identical. So the A motor was just another step away from the original Hemi in the big scheme of things. The first A engine, the 1956 277, was actually a heavily modified 270 Poly, but it was still closely related to the original 331 Hemi. They got the next engine series, the LA, all the way to 340 cid — before they had to change the block to create the 360!

The early, semi-Hemi Poly has a separate valley cover underneath the intake manifold; A-series engines did not have the separate valley cover, since the intake performed this function. Both series were similar in outward appearance, despite being from rather different engine families.

The 1955 Plymouth **Hyfire** V8 (a smaller version of Dodge's Poly) was available in two displacements and three horsepower ranges: the 241 produced 157 hp, and the 260 produced 167 horsepower. A mid-year addition of a power package (four-barrel carburetor and dual exhaust) increased the 260 to 177 horsepower. The latter engine was not part of the original plan.

**J.C. Zeder**, Director of Engineering at Chrysler, claimed, *"We are not seeking to develop higher speeds and greater power than anyone else. The increased speeds and torque of the 1955 Plymouth, when combined with the PowerFlite transmission, results in improved performance in low and middle ranges, plus greater economy."*

In other words, Plymouth's new V8 was considered to be no more than a higher-powered extension of the traditional and reliable Plymouth flathead six. The horsepower race at the time was considered by Chrysler to be exclusive to luxury cars. Chevrolet's new V8 brought that concept to an end, and brought the horsepower race to the low-priced field.

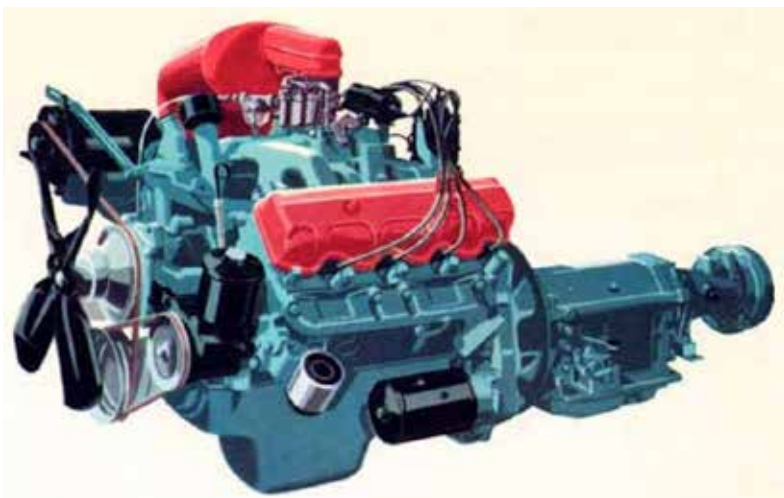
Plymouth had to respond, and they did — with the 1955 power package and later with the 1956 Fury.

The overhead V8 was another facet of the latest automotive fashion. Everyone had to have one if they wished to keep selling cars... So Plymouth got one. If people like J.C. Zeder had their way, the familiar flathead six would've stayed Plymouth's sole powerplant.

The poly head engines were made under a variety of different names, including **Fire Dome** (DeSoto), **Power Dome** (Dodge Truck), and **Fire Power** (Chrysler).



The 1956 Plymouth HyFire V8



The 1957 Dodge 325ci Poly

Restorer **Mike Peterson** noted, “The 1955 Carter carburetor on the Power Pack was a surprisingly modern design with metering rods on the primary jets and velocity valves controlling air flow to the secondaries. This is similar to the Carter AFB, the carburetor used on the 426 Hemis. Dual exhausts were also part of the power package. No other modifications were made to the engine when the power package was installed.”

“The weakest part of the V8 engine was (at least in early years) the crankshaft. Even though the cranks are forgings, they are prone to breakage. Mine broke between the number four main bearing journal and the number seven and eight connecting rod journal. I know of at least seven other 1955 Dodge owners who have experienced similar problems.”

“My car, however, gave me a warning of impending trouble with low oil pressure. There were no noises until it cut loose, and then there were plenty of new audio sensations...”

*“The crank looks structurally sound; I believe that the trouble is in the Dodge bearing materials. A good aftermarket bearing should be used during a rebuild. The cranks can be welded back together and made into interesting lamps.”*

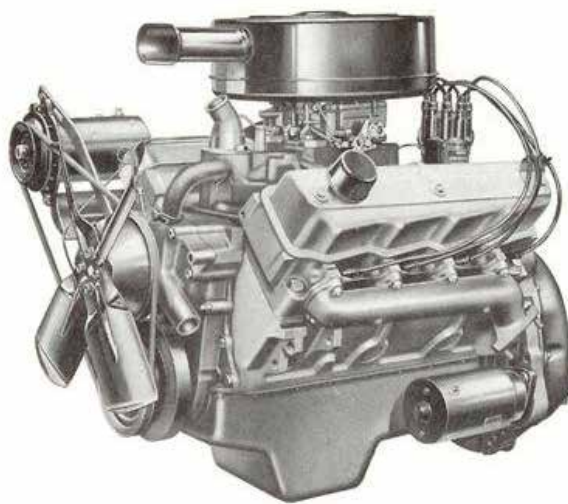
In the long run, the same issues that brought about the Poly also ended their production.

As V8 demand kept increasing, the A engines could not keep up with the need for more power; larger displacements were needed.

The company designed a series of new large engines (B engines) now known as the *Wedge* – that could be made more cheaply and more quickly; even the 392 Hemi was matched by a new 413 cubic inch B engine.

Chrysler engineers discovered, while developing this series, that the wedge-head engines were actually more efficient, and much cheaper and faster to build, than the poly design; and the Hemi advantages were overcome with sheer size.

Pete Hagenbuch explained, “...the performance improved by getting rid of the silly polysphere. A wedged chamber have some advantages... you can build in a lot of what we call *squish*, where the chamber is just part of the cylinder head surface and the piston has a flat area that matches up with it. Squish is why you can run 12:1 on a wedge head because without squish you would have to run 9:1. It gets the charge moving and mixed, moving through the chamber at high velocity, which means the flame travel is fast and there isn't anything left to burn by the time it gets to top dead center where you expect the detonation. Anything that reduces detonation also helps reduce pre-ignition which is catastrophic...”



A Fury V8 – typical of a 301 or 318ci Poly

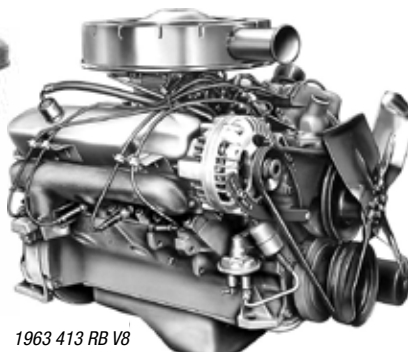
The Poly engines lasted from the 1955 cars to the 1958 cars — a fairly short lifespan, but they were always an interim solution while work proceeded on the A and B engines. DeSoto used the Dodge 325 for just one year (1957). Plymouth used four different displacements of the same engine series from their 1956 to 1958 lines; Dodge and Chrysler each used three displacements, from the 1955 to 1958 cars (though not the same three displacements).

It would not take much longer for Chrysler Corporation to stop having different displacements for each brand (and in each successive year), which was a nightmare for dealer parts departments.

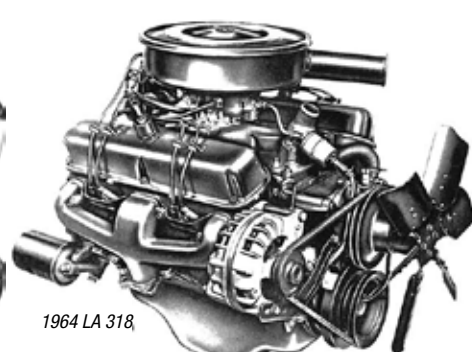
## THE HEIRS APPARENT



1960 413 CROSS RAM



1963 413 RB V8



1964 LA 318

These are the motors that would replace the Poly V8 as the little brother of the Hemi V8. The B Wedge, the RB Wedge and the LA (which of course many of us know here in Australia as it was the platform for Valiant's 318, 340 and 360). The LA of course went right up to the mighty Magnum.

## The Poly in Australia

The history of engines in Australia has taken a slightly different path to that of the US, even while we were still importing their motors. Obviously, our conditions are a lot more harsher and petrol is more expensive here. Everything is bigger in the States too, while we've had to balance our

lusts for power with a need for torque, durability and economy. We've also always been a little bit behind the times being so far away – although that ain't necessarily such a bad thing sometimes.

So the Flathead actually hung around here for longer, and because we never really got the Hemi (at least until we made our own six version of it or



*This 1955 Chrysler Windsor 301cid  
Spitfire Poly produces 188hp!*



we started importing larger eights from America during the muscle car era) the Poly was actually the big brother in the Chrysler motor family here for a while. Quite the opposite to how things panned out in the States.

Chrysler has a long history in Australia, going back to the 1930s with **Maxwell** and Dodge. Initially, Chrysler Australia assembled North American Chrysler passenger cars and trucks. In the 1950s, Chrysler Australia became conscious of market ground lost to Ford and **GM Holden**. Vehicle production regulations necessitated significant local content, which had considerable effect on the variety of vehicles that were peculiar to Australia.

Several attempts were made during the 1950s to build cars built in Australia for Australian conditions. Chrysler's most popular car downunder in the 1950s was the US sourced badge-engineered

trio: Plymouth **Cranbrook**, Dodge **Kingsway** and De Soto **Diplomat**, each based on the 1954 US Plymouth – the *P-25*. A ute was also developed from this threesome and marketed in nine different versions. The Cranbrook, Kingsway and Diplomat all ran Chrysler's Flathead 6.

In 1957, Chrysler Australia consolidated each of the marques into one car—the Chrysler **Royal**. This was a facelifted version of the 1954 Plymouth, and it was to continue in production until 1963. Of course the first of these Royals was the AP1.

The Royal was an automotive curiosity. Starting life as a side-valve 6-cylinder manual, with a 3-speed manual tranny, it was progressively modified with US add-ons such as power steering, the push button *Powerflite* auto and eventually an OHV V8 – the Poly, as an upgrade.

The Royal didn't really evolve much, although later AP1s, the AP2 and the AP3 did offer a

choice between the Flathead 6 or a Poly 8. By 1963 the Royal was viewed as outmoded and expensive so production was ceased.

In both 1958 and 1959 Chrysler Australia released Plymouth **Belvedere**, Dodge **Custom Royal** and DeSoto **Firesweep** models which were imported from the US in CKD form to be assembled in Adelaide.

The Plymouth was fitted with a 318-cubic-inch V8 Poly and the Dodge and de Soto models featured a 361-cubic-inch V8 Poly. Assembly of the three models was discontinued in 1960 when they were replaced by a single Dodge **Phoenix** (that didn't run on a Poly) through to 1973.

In Australia, the Poly was only finally superseded by the **Slant Six** when the Chrysler **Valiant** was first introduced here in January of 1962.



*This pink 1959 DeSoto Firesweep from  
Mad Max 2 is probably one of the most  
recognisable Poly-powered ForwardLooks in Oz.  
Too bad it got murdered by that flame-thrower.*

# *poly wanna cracker*

## THE 'RODNEY DANGERFIELD' ENGINE

### UNSATURATED FAT

***"The lowly 318 Poly gets no respect!"***

For those of us with Chrysler Corporation products built after 1966, the small-block family consists of engines derived from the 'LA' 273 package introduced in 1964. These came in 273-, 318-, 340-, and 360-inch displacements.

A majority of the speed parts now available for small-block Mopars fit this package, with the 318 LA engine being the most common and pedestrian of the group. However, for people owning cars from 1955 to 1966, there is another 'A' engine, a small-block we call the Poly.



The name **Poly** came about due to the polyspherical nature of the head design; it's not a wedge design like most other non-Hemi engines. Instead, it uses a canted-valve or semi-Hemi layout much like race engines use today. Unfortunately, since the '60s, the poly engine line has been 'dissed' as little more than scrap metal, something to stick behind the garage since it was too heavy to tote away. There are some reasons for that, however. The engine, based on the early Hemi hardware, is a good 70 pounds heavier than the small-block that succeeded it. Unlike the LA engine line's 340, there were few factory performance packages for the poly engine. None after 1962 – the year **Mopar's** styling cues and performance era really began. It didn't help that the largest displacement the engine went to was 354 cid.

This is an extract from a great article out of **Hot Rod** magazine. The story remarks upon how many Polys are still in service and is the perfect intro to this engine line which they call the *Rodney Dangerfield* (after the comedian). If you look up the original story, not only is it quite entertaining but it'll also help you ascertain the parts that are available, interchangeability, and engine identification with comprehensive lists. Moreover, if you have the urge to *hop up* your poly a bit, it even tells some tricks that will let you get more thunder out of it.

### **Engine ID: A Poly Primer**

Chrysler's poly-head engine is unmistakably unique from other Mopar engines. It is easily distinguished from the later LA counterparts by its wide stance in the engine bay, looking more like a big-block than a small-block (the distributor location is in the rear, however). The valve cover design differs from the LA motors (273, 318, 360) in that they attach with two bolts in the middle of the valve cover (three bolts for the '56 **Plymouth** 277-inch poly) rather than the five small screws around the outside of the later LA motors. Some early versions used a unique scalloped valve cover.

With a valve cover removed from the poly motor, the intake valves are on one side of the rocker shaft and the exhaust valves are on the other side; in the later LA motor, the valves are all to one side of the rocker shaft. As a result, the exhaust ports on the poly are evenly spaced, similar to the Hemi design, as can be seen when the exhaust manifold is removed. These poly-head exhaust manifolds run parallel to the heads on each side, like a log, with very little gap between the manifold and the head. Then they exit downward at a sharp angle at the end of the cylinder head-not high-flow by any stretch of the imagination.



*The Poly engine shown here would normally be discarded for a different mill. But don't be too quick to toss it. The Poly engine line built between 1956 and 1966 can be built to run hard and look good.*

As previously stated, there are some variances between the **Dodge**, Chrysler, and Plymouth poly motors. The earlier Plymouth poly motors have a closed valley cover which is sealed by the intake manifold itself, while the '55-'58 Dodge and Chrysler polys have a valley cover pan under the spider-like runners of the raised intake manifold (we call them air-gap manifolds now, but Mopar had them in the '50s on the poly). The timing-case cover on the earliest Dodge and Chrysler polys are similar to the early Hemi engines, while a different version in both appearance and fit can be found on the Plymouths.

The engine ID is on the front left bank of the block next to the timing-case cover below the cylinder-head face. The first letter and digits may help identify which year poly engine one may have, though the external design of the poly head is self-authenticating.

### **Interchangeability: Swapping Poly Hardware**

Due to the design similarities, pieces from the early Chrysler 301-, 331-, and 354-inch poly-head engines and Dodge 270-, 315-, and 325-inch poly-head engines can easily be interchanged with early Hemi parts to create a Hemi engine; indeed, these displacements all came in both poly and Hemi trim. This is accomplished with a swap to early-type Hemi heads, pistons, and pushrods. However, since these motors are now uncommon, we'll focus more on the ubiquitous Dodge and Plymouth poly 277-, 301-, and 318-inch engines from the '56-'66 era and their compatibility with the later-style LA motors and parts.

There are literally thousands of these motors still serving their masters faithfully in cities, townships, and 'burgs across our fruited plains, while numerous others sit idle, waiting for their owners to realize their full potential. Counting these mills as "*nautical bygoness*" (yep, boat anchors) is like Captain Ahab spitting on Moby Dick! Their soiled mental reputation notwithstanding, durability, horsepower, and torque are easily breathed into these early poly motors using many of the 273, 318, 340, and 360 LA motor go-fast goodies now available. You can mix and match common parts with the LA family of engines to refresh or resurrect the poly power in your ride.





*Dodges in South America (like this Charger from Brazil) during the early 1970s were probably the last Mopars in the world still actually being optioned with factory Poly V8s (and Slant Sixes) – alongside the obligatory Hemi-powered R/Ts at the top of the range.*

A few more facts are in order here. All of the '56-'66 poly motors have the same rear block-face bolt pattern as the later LA motors and can share the same crank. However, only the '62-'66 polys came with the same crankshaft as the 273/318/340 motors, the crank that accepts the popular '62-and-later aluminum case TorqueFlite transmissions. The '56-'61 poly motors use a crank with an extended flange, mainly for use with the old-style, cast-iron case TorqueFlite transmissions, so you may want to use a '62-and-later crank. Note that crankshafts used in automatic transmission-equipped vehicles are not machined for the manual transmission's pilot bushing; you need to machine them if you are swapping in a crash-box. Finally, the large-diameter 360 crank can have the mains ground down to fit a poly 318 block as well as the 273/318/340 blocks, creating a stroker engine.

This is only a brief introduction to the poly engine family. A stroker poly engine displacing 400 inches or more is not only possible, but also capable of putting some solid numbers up on the dyno.

### **Induction Science: Over-The-Counter Speed Parts**

For your poly project, performance cams should be ground from new blanks and cylinder heads can be upgraded with a die grinder (no hot replacements) using the **MP Small-Block Engines** book blueprints as a guide. Pistons should be custom-tailored for the poly-head design; standard LA pistons will not fit. There are also some intakes that allow you to move more air through the engine if you are ready to dump that two-barrel setup that came stock on your vehicle. The early '56-'62 poly motors had three flavors of factory-installed induction hardware: the two-barrel grocery-getter intake, the four-barrel sure-to-smoke-you-now intake, and the now-coveted dual-quad let's-bet-pink-slips intake. When you wanted to get serious, the OEM cast-iron four-barrel and dual-quad intakes were the E-ticket rides of their day; after 1962, poly intakes were all grocery-getter versions.

The factory four-barrel intake was available through 1962 on the poly 318, while the dual-quad version had a shorter run through 1958. These factory intakes fit all '56-'66 Poly 318 engines, though note that the earliest '56-'57 model intakes used the **WCFB** (Will Carter Four-Barrel) carburetors with their small-pattern mounting flange. Today, these carbs are less plentiful and a bit pricey, especially for the numbers-matching crowd.

A better bet is to find a version which mounts the popular **Carter AFB** (Aluminum Four-Barrel) carbs, the '58-and-later intakes.

There are also some rare and ultracool street induction setups still passing from hot-rodder to hot-rodder if you know where to look. At one time, **Edelbrock** built a dual-plane, three-deuce aluminum intake (PN P600) that used **Stromberg** and early **Holley** carbs. Edelbrock also made a limited number of finned aluminum valve covers to complement its triple-threat intake. **Weiand** produced an aluminum dual-quad intake (PN WPD 4 D) for the weight-watchers crowd as well as the single-plane four-barrel (PN

7503) and the dual-plane four-barrel intakes (PN 7508). Offenhauser was reputed to have been in the game as well with a single four-barrel aluminum intake.

If scouring swap meets and garage sales for these OEM and rare aftermarket intakes and carbs don't thrill you, take heart, because new Weiand aluminum four-barrel intakes (PN 7503) are readily available for the Poly 318. Moreover, Edelbrock, through its Carter arm, is still serving up the popular 500-cfm carb for dual-quad applications and the 600-cfm and larger carbs on single four intakes. Need to hook it up? Slick, high-tech progressive linkage waits on Edelbrock's shelf for the dual-quad enthusiast (PN 7094). Still want more? **Dick Landy Industries** even offers a Holley Powercharger 174 mini-Roots supercharger complete with the blower, the intake manifold, and all the necessary hardware for the Poly motor.

Of course, what goes in must come out, and the factory exhaust manifolds could really use some upgrading. Three options exist for this. The easiest way is to buy a set of headers from Spitfire's **Harold Johnson**, who has them available for various applications. The second is to have a shop fabricate a set of custom tubes for you. The third, and most adventurous, is to buy a Mopar poly-header flange and tubing kit, and do it yourself. Regardless, headers and a good exhaust system go a long way in making more power with your poly. Boat anchor? Imagine lifting the bonnet on your outwardly docile, hubcap-clad, **Coronet** or **Belvedere** to reveal that Weiand/AFB or dual-quad poly-head engine lurking beneath. Before the Brand-X competition cries foul, just let them know it's not a transplanted big-block torque monster that just blew their doors off, but a small-block poly 318 that is indeed native to those fenderwells. Ahhh, the victory is sweeter when you look like a sleeper but can smoke 'em at will! The poly motor in proper tune and attire can indeed run both hard and fast.



## THE ATOM



Never let it be said that the editor doesn't listen to the members. This beautiful chopped custom Phoenix (they call it a Dart in the States) has appeared a couple times now in previous issues. And the award-winning ride has been the subject of heaps of requests for it to re-appear in Torqueback, now that we've gone full colour.

So, here it is again folks! Not that you had to twist my arm...

If you asked **Justin Hills** whether this car – voted the *World's Most Beautiful Custom* in 2017 – was actually a custom, he'd hesitate. Yeah, it's got a chopped roof, shaved handles, custom grille and bumpers, and dropped sills. But, it's still got the stock headlights and taillights, all of the chrome and trim is still there and in its original location, and the colour is a mild but classy straight-up silver. No scallops, no pinstriping, no fade job. So, what is it?

Well, the best explanation Justin could come up with was, it's a concept custom, and this is how he explains it:

*"If you look at some of the early GM and early Ford, even Dodge and Chrysler advertising, they're chopped, they're lowered, they've got no handles, they've got one-piece windows... These are the drawings they wanted to produce, but once it goes through the process of engineering and bean counting – it's got to have this and that, it's got to be tall enough for six-foot people – all the styling gets lost and they produce these cars that are still great looking, but not as great looking as the artist's impression."*

*"So that's what I'm trying to do, create these artist's impressions of how they should have looked. I don't know if they're a custom or not? I don't know where my cars fit into."*

Justin sticks to a pretty simple formula, *"You've got to keep all the great bits, and there's a lot of them on these cars, get rid of all the crap and don't add too much. I try to keep them clean and simple and understated."*

Over the last few years Justin Hills has carved out his own niche in the restoration and modified automotive industry. His spectacular black 1949 Buick 'Art deco' catapulted Justin and his business, **Hills and Co Customs** onto the world stage. Winning *Australia's Most Beautiful Custom* in 2009 really wet his appetite for a chance of international success. The seed for The Atom was planted.

The strategy from the beginning was to create a vehicle to be unveiled in the birthplace of Customs, America. He specifically chose a car that was both unusual (for customising) and yet familiar at the same time, to Americans that is. Although the finished product is essentially close to a stock 1960 Dodge Phoenix there's a multitude of magical refinements and bold arrangements that really set this one apart from all existing factory equivalents.

The most major aesthetic change would emanate from performing a perfect chop. Now this car is not small by any means and unless you get this part right, game over. Justin also stumbled

on a sister model with a smaller rear window. This would become the foundation for the entire roof transformation and a huge part of the car's personality.

Justin lowered the profile of this big yank tank by only four inches to let the chassis and running gear give this car its lead-sled grace.

The front bumper is another Hills triumph executed by adding a 1960 Cadillac hulk which was diced into nine pieces and reconfigured to flow in unison with the stock headlights while retaining correct licence plate dimensions. Accentuating the peek on the guard crest, results in providing an unbroken line from the bottom of the park lights through to the top of the guard. The car also utilises '58 Olds trim.

Apart from the major mods, old school custom tricks abound on the Dodge like rounding corners of the doors and shaving the handles. Under the bonnet the 318 Dodge Poly four-barrel engine has been rebuilt to bog-stock specifications and runs like a clock. A giant, two-tonne clock on wheels, that is...

This is a magnificent car. And you'd be glad if you got to see this in the flesh at the *Clipsal 500* only a couple years back!



















## MARCO CRISANTI

### Hi Chrysler Car Club of SA!

My name is **Marco Crisanti**. I was born in Adelaide 1968 and grew up in Seaclyff Park. Now I reside in Flagstaff Hill. I joined the **CCCSA** in 2011. I own three cars, a '63 AP5 **Valiant** sedan, a '63 AP5 **Valiant Safari** wagon and an '84 GK **Mitsubishi Sigma** wagon.

The AP5 sedan was first purchased by my uncle in 1963. Then my uncle decided to go back to Italy and sold the car to my father. The Valiant only came out of the garage on weekends for family outings and grocery shopping. We were a family of six and I was the youngest, with three older sisters.

I remember picnics and days on the beach where we could remove the **Mopar** AM and shortwave radio transmitter from under the dashboard connected by a long 12 V power supply cable. The antenna was a meter long. Parents tuned into **5AA** or **RN**, and us kids wanted to tune into **5KA**. I still have the radio and mounting brackets in my collection. I should bring it to a meeting to show everyone how cool it is and I would love to know if it still works!

Twenty three years later my father handed down the Valiant to me for my 16th birthday – which had \$500 value. I learnt to drive three on the tree and drove to school for my final years at school. I bought oversized jelly bean mags while at school for \$100 and lowered the front. I also gave it a cut and polish – and fell in love my car. So did everyone else, except for one traffic cop who issued me a defect for blown number plate light, being too low at the front end, and fats – which I cleared up that weekend. And you guessed it, the mags went back on my car the next day.

So bad.

As for modifications there were only a few over the duration that I have owned it. Floor shift 3 speed, front bucket seats out of a Mitsubishi **Magna**, **Cain** manifold, 350 **Holley** and extractors. Restoration has never been on the cards because I drove it all

the time. You don't have to look to hard, and the car will tell you a lot of secrets! I believe an old car can get away with its imperfections. However if I could afford to restore it, I would for sure. Including the two other cars.

Briefly I would like to mention that my Sigma was also my dad's car from brand new, and when he passed away in 2005 I bought the car. I could easily write another page about the Sigma's life.

Then in 2006 I had a mishap with the Valiant which required a new front left guard, headlight rim and some other bits. Naturally there were no parts available anywhere, until this green AP5 Safari wagon went on the market ten days later for only \$850! So I used the Safari bits to repair the sedan first and spent the next 3 years looking for parts to repair the Safari.

And I will definitely not have enough room to write about the life of the Safari either, that's for sure!

I love my cars and do wish to keep all three of them running for as long as I can. I would also like to pursue a new career as an artist of some kind as my health has deteriorated somewhat and the physical requirements of my current occupation (a disability support worker) are not possible any more. I worked in physically demanding occupations all my life since I was 15, even though deep inside me there was my real talent sleeping.

Around August 2016 I had an impact to my left knee as I slipped on a staircase at home. While it was bearable at the time to manage with my daily life and work routine, I was never aware of some underlying problems with my health to come. Approximately six months later I began limping, as my left leg could not straighten. But I continued working, ignoring the problem.

Consequently a 'Bakers Cyst' developed behind my left knee. My stress levels increased. It really started to hamper me with everything – until finally work sent me home to rest for a week. But I was not recovering!

I soon discovered my fate, I had a bone marrow oedema. Diagnosed with diabetes and osteoarthritis. It was so far gone that I had to be confined to a wheelchair for a month. I basically needed a knee replacement. Or PPS (pentosan polysulphate sodium) injections. This is a new trial to treat people with osteoarthritis and it is designed to reduce bone inflammation on the joints. Lots of rest at first, then lots of rehabilitation for the last ten months.

Well, my health is back on track now and my knee is back to 95 percent mobility. I even returned to work last April.

Out of all of this I developed more art skills as I had a lot of spare time on my hands. I found some time to draw...

Hundreds of drawings!

Mainly as gifts for special people in my life but also occasionally for a few extra bucks.

So I did a couple of courses at **WEA** before I decided to get some business cards made for my hobby. I then started my own business and called it **Markings by Marco**.

Plus I even got to be more involved with the **CCCSA**.

Most importantly, what I have learnt is to never accept crippling chronic diseases – and take every bit of professional advice and support from people, then you will recover. It's hard work and I have proven to myself that I can manage it.

I would like to thank the **CCCSA**, and **Dave Heinrich** for his advice and support – sharing his thoughts with me and how I can develop myself as an artist in the near future... (*You're welcome – Ed*)

So eat well and exercise properly – with everything in moderation. And love life.

Thankyou, Marco.

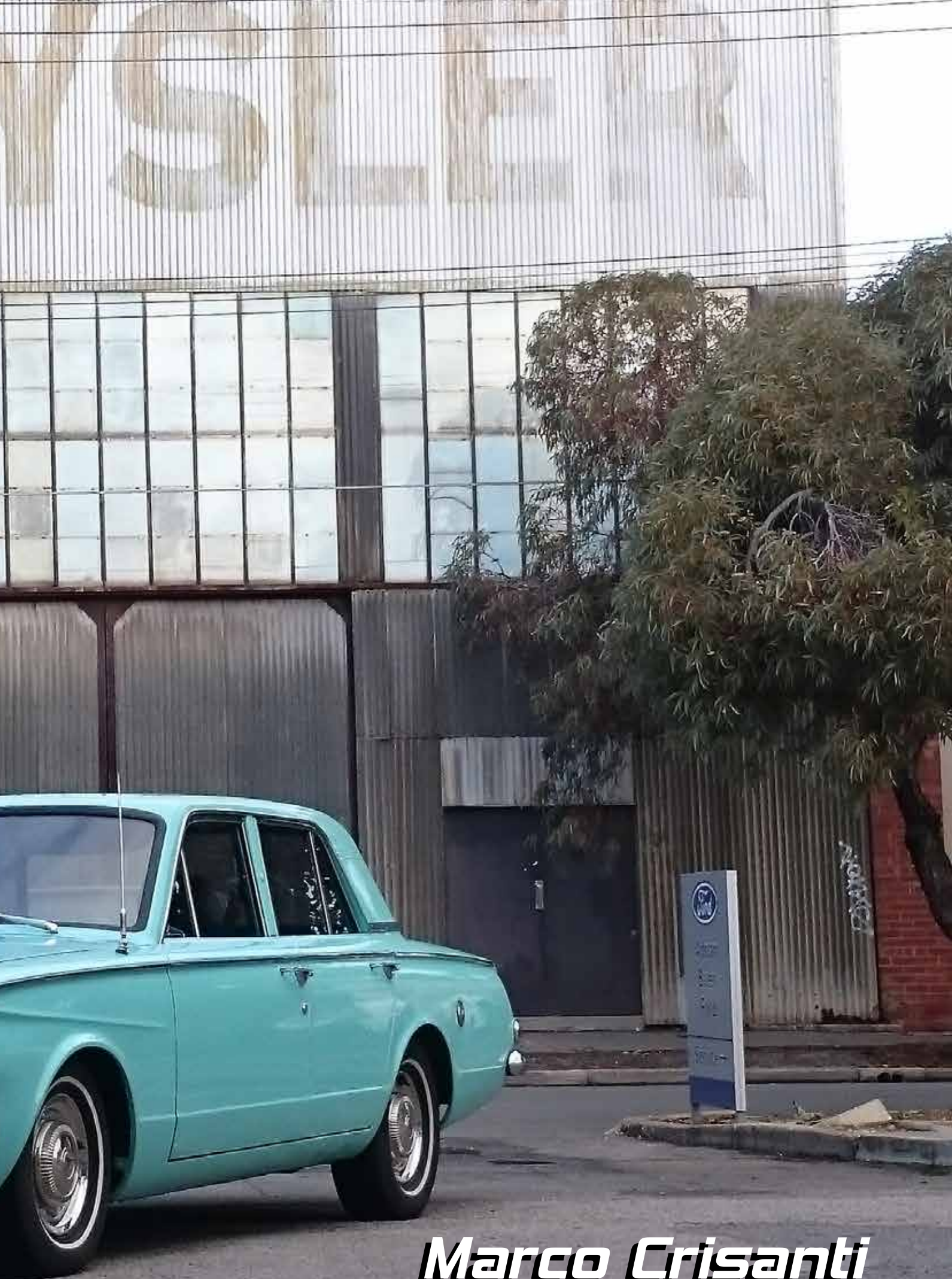
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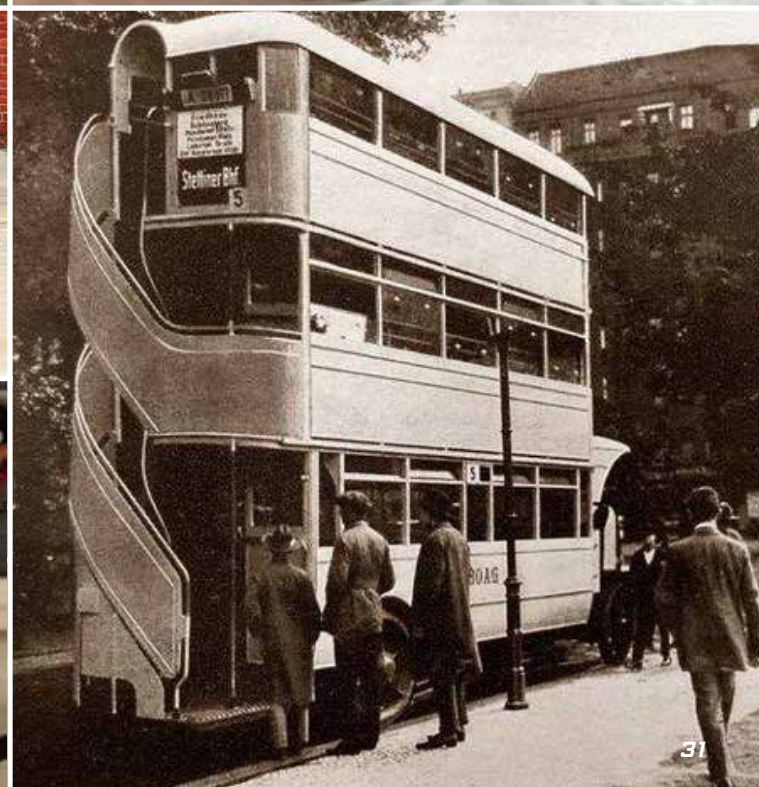


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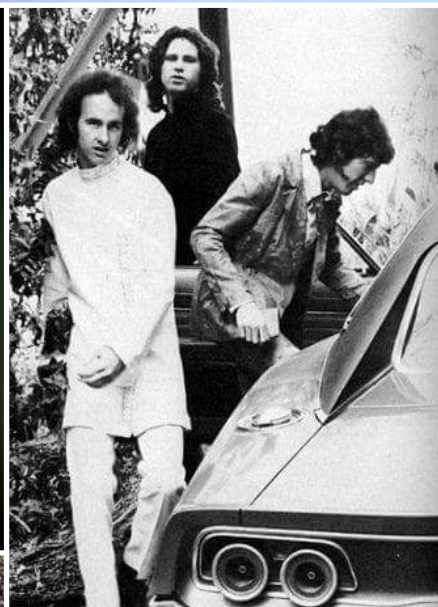
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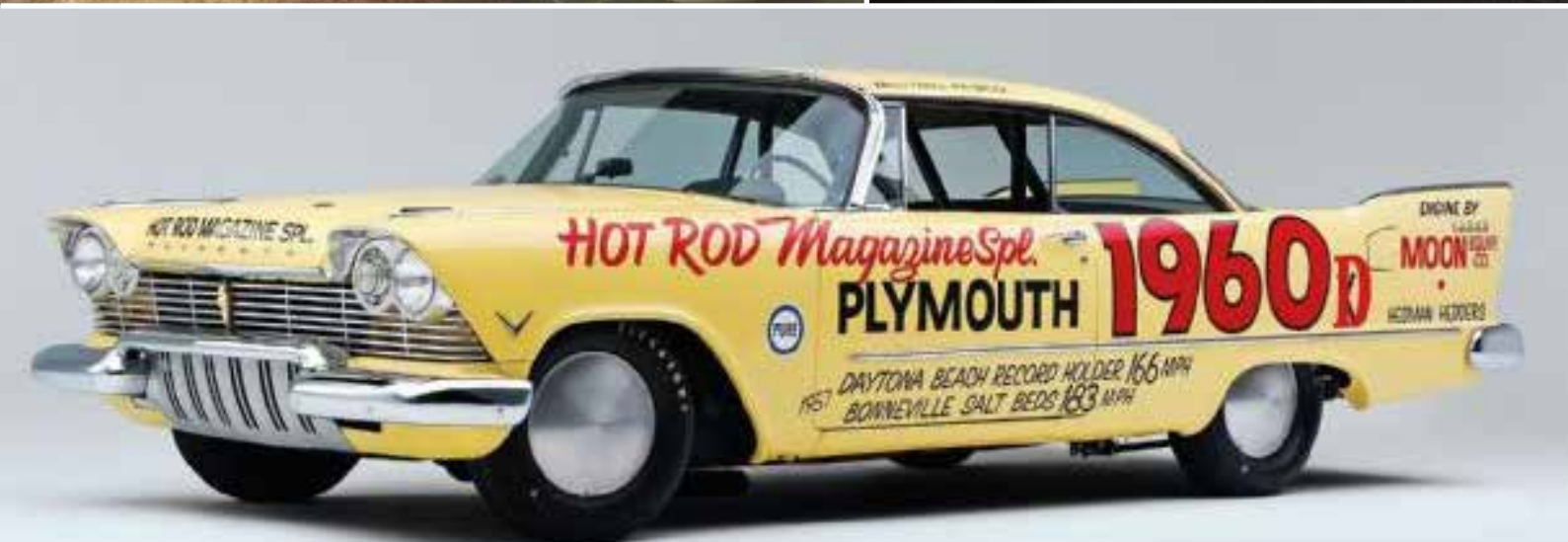
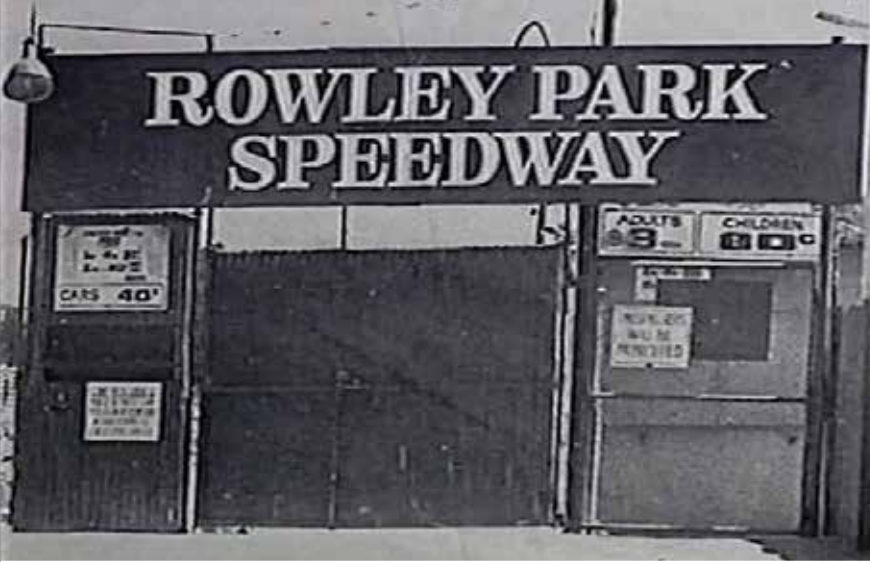














### ELDER PARK, SEPTEMBER 29

What a fantastic day at Concours d' Lemons. Andy Miller and his 'Bullet Proof' won the Rust Belt American Junk Special. Thanks to all the committee from Adelaide Crusin Classics. And a very special thanks to Kevin, Alan our USA Host, and to all who attended. There was a great crowd with a great variety of rods, customs, weird and unusual vehicles making the day so successful and enjoyable.

There's been a new show in town since last year. It's the world's worst car show, or more correctly a show of the world's worst cars, and despite all efforts, it's slipped past our border security and immigration controls, and has finally made it to Australia!

This much talked about event (not in a good way), somehow wormed its way out of *Monterey Car Week* (the action packed program of car events supporting the Pebble Beach car auctions).

*Concours d'Lemons* certainly lives up to its slogan of "celebrating the oddball, mundane and truly awful of the automotive world", and even goes so far as to thumb its nose at conventional shows by openly encouraging the bribing of its celebrity judges.

Open to vehicles of all types, the Australian public is subjected to some bizarre examples of questionable engineering and roadworthiness, as owners fall all over each other to win \$2 recycled trophies in categories such as *Needlessly Complex Italian*, *Rueful Britannia*, and *Der Self-Satisfied Krautten Wagen* to name but a few.

And of course, the low-point of the day, is the public humiliation of the winner of the *Worst of Show* award, most likely presented by someone picked off the street during the day!

There's no way anyone could actually charge money for an event of this standard, and organisers always tell people... "It's free for entrants and the public, and you get what you pay for."









# up the freeway

THE BEND MOTORSPORT PARK

AUGUST 24-26

***"Catch a ride to the end of the highway and we'll meet by the OTR, There's a race up ahead and I'm goin', come and watch them V8 cars. Come on the Supercars, we're goin' up to Taillem Bend"***

Welcome to **The Bend**.

I think I have attended my last **Adelaide 500**. A big call I know, but that's how impressed I was with the track, facilities and atmosphere at the new **Bend Motorsport Park** for the inaugural **Bend SuperSprint** round of the **Supercars** in August.

The organisers had planned for 30,000 people to attend over the weekend. They blew that away getting 41,000. I wonder how many of those, like me, were curious and just wanted to check it out all shiny and new – and whether it would really work. And how many, again like me, came away completely in awe of the what they have built down at Taillem Bend and very optimistic for the future of motorsport in this state.

Sure there were teething problems...

An hour and a quarter to get out of the carpark and onto the freeway certainly needs to be sorted.

As did **SAPOL** then adding to the traffic chaos by staging a lick and blow in Taillem Bend after you finally got moving. They tested 2350 people on the Saturday, only two blew over, one at 0.059 and the other at 0.032. The second was driving disqualified. No revenue there for them apparently so they didn't bother on the Sunday.

The other big problem was the dust.

I'm sure they'll solve those issues in time for next year.

So, what made it so good?

Where do I start.

The price - \$69 for a general admission ticket for Saturday, much cheaper than the city race. And, that includes the ability to walk right up to the back of the pit bays and see everything they're doing – that costs extra at the 500. During our pit walk we bumped into **Craig Lowndes**, **Mark Winterbottom** (riding a golf cart with a seriously bent rear axle) and **Rick Kelly**. (I had to be restrained from giving Kelly curry for punting Lowndes off and stealing the championship at **Phillip Island** back in 2006 – still bitter!)

Then there's the track – it's massive but really smooth. Watching the cars go around there's no bumps in the tarmac, they're getting a nice clean ride. And there's quite a few corners for them to make passes. We stood on a hill in the middle of the track to watch the race. I reckon I could see a good 75% of the track from there. A world away from seeing 10 seconds of each car as they flash past at the 500. Bonus was they'd set up a **Coopers** watering station there too – pity I was the designated driver.

Speaking of which, next year I may avail myself of the camping facilities for the weekend. Apparently, they sold out one campsite and had to open up a second to cater for the demand. From all accounts the camping was well set up with toilets etc. Or, if I win **XLotto**, I might book a room in the hotel. They're also building holiday units around the track that will suit families. A really popular spot was the *'park and view'* section. Again on a hill and, also with a view of the majority of the track. It was free to get in there this year – I wonder if that will continue?

In terms of catering, there was certainly plenty of that to go around. The **Shahin's** even had an **OTR** inside the track with **Subway**, **Hungry Jacks**, coffee etc. Plenty of toilets and shade too (except on our centre mound where there were none on Friday, two on Saturday and 12 on Sunday – seems they were learning as they went which is a good sign).

I was hosting a friend from the **Chrysler Owners of QLD** that weekend and he was very impressed with the track and organisation. (He also reckons we have the best car club magazine in the country by a mile, even better than the **Mercedes Club** he's a member of – great work **Dave!**).

So, short of someone inviting me to their corporate box, or by some miracle **Pink Floyd** is convinced to reform and play at the 500, I'm saving my cash for The Bend next year and planning to make a weekend of it (I only went Saturday this year).

If it was good this year, it's only going to get better as they improve things. I'm also looking forward to a club cruise there one weekend to try out the go kart track that looks amazing – long flowing sections with big wide corners.

I'm officially a Bend fanboy!

– Iain







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### A COMMUNITY COME TOGETHER

Coffee N Chrome is a wonderful non for profit group for owners of classic vehicles with chrome to take out their bikes and cars. Eighteen months ago a group of thirty-odd car enthusiasts began getting together at the Mile End Home Maker centre on every third Sunday morning of the month. They placed a post on social media inviting others to join them. By the fourth month of the group meeting this meet had swelled to three hundred cars. Then by the time the Coffee and Chrome celebrated its one year anniversary the event was at peak capacity, around 700 vehicles.

This has lead to exploration of a new venue large enough for 800 cars. The most recent 'CNC' was a trial special event actually requested by Morphetville Race Course – so that they could get an idea as to what is involved in hosting such a gathering. People travel from rural areas as far as Gawler and some even fly in from interstate to join in. This event is free and is a great feel of community for people who love their chrome!

In the space of a few short years this originally casual meet of enthusiasts has boomed, and has now even become branded **Coffee N Chrome** (or **CNC**). Not to be confused with **Cars N Coffee** hosted by the **Horsepower Crew** – usually up at Blackwood. Also a GREAT event.

The philosophy hasn't changed though. It's still an opportunity to catch up on a Sunday morning, and still an excuse for owners of 'steel bumper era vehicles' to take their classic cars out of the shed, enjoy them and share them with other enthusiasts. With no pressures or obligations.

As it evolved, CNC adopted the motto "*Driven, not hidden*". And during this time, there was a concerted effort to get more classic cars on the road to boost the local economy. **SMASA** was working with the State Government to have amendments made to the **Classic Motor Vehicle Registration Scheme**. Then in June 2017, the State Government finally introduced the **Club Motor Vehicle Registration Scheme**. And following the introduction of the new scheme, the numbers of enthusiasts attending the Coffee N Chrome gatherings increased exponentially. No coincidence.

Today **Mile End Homemaker Centre** holds 750 car parks. On the first Sunday of June 2018, Coffee N Chrome filled the Homemaker Centre to capacity with classic cars from the 50s, 60s and 70s once again.

Remember, CNC is not a car show; it is a social gathering of the auto enthusiast community. Enthusiasts bring their cars to CNC to share them – they know that at CNC, their cars will not be critiqued or judged. There is no *badge bias* or egos. **Volkswagens** are parked next to **Chevys**, **Cadillacs** parked next to **Minis**, unrestored Aussie steel parked next to rare American classics. At CNC, everyone is equal and every car is special.

The classic auto enthusiast community currently gather at Mile End Homemaker Centre from 8.00am to 10.30am on the first Sunday of every month. You do not need to be a member of a club, and there is no cost to attend. All steel bumper era vehicles, bikes with chrome and café racers welcome. We hope you can make it to a Coffee N Chrome soon.

– With thanks to John Antinow and Lesley Little





# queensland doubleact

## MOPAR SUNDAY



### WILLOWBANK RACEWAY, 29/7/18

For many folks, Mopar Sunday is kinda like a Chryslers On The Murray on the track. It's undeniably the biggest action event on the calendar in our scene, held at one of the best spots in our land.

Mopar Sunday was the first and has been the longest-running all-Mopar drag racing and show n' shine event in Australia. An absolute must for all Chrysler nuts' diaries!

Whether brand new, restored, original, showpiece or dedicated drag car, modified street car or stock rides – or even pro stock, its a fantastic celebration of all that is **Mopar** and **Chrysler**. Racing entries are \$75 Pre Entry, becoming \$100 on the day (this includes one car and one driver). Show & Shine, Mopar Marketplace and spectator entries are all \$25, with all children 13 and under free! And Mopar Sunday's famous Dyno Shootout costs \$25 (admission not included).

Willowbank is one of Australia's most famous raceways, and the capital of drag racing downunder. That alone is a good enough reason to check this event out. **Mopar Sunday** is the original, presented by the **Queensland Chrysler Association**. And **Paul Cronin** definitely rates it.



WELCOME TO WILLOWBANK RACEWAY MOPAR SUNDAY SUNDAY 29TH JULY 2018 NEXT EVENT TEST N' TUNE SATURDAY 3RD AUGUST 2018			
1:48 PM 29/JUL/2018	SPEEDFLOW	ROCKET	
	LEFT	RIGHT	
Car # ... 922		804	
Class ... D10		D10	
DIAL ...			
R/T ... .413		.785	
60' ... 1.585		2.319	
330 ... 4.737		6.648	
1/8 ... 7.340		10.354	
MPH ... 93.84		86.19	
1000 ... 9.630		13.534	
1/4 ... 11.545		16.254	
MPH ... 116.09		81.12	
Left 1st 5.1234 Compulink AUTOSTART ON !! Both Lanes STAGED @ Starter GO			
Rtd # 00 474/475			





### LAKE SIDE PARK RACEWAY, 28/7/18

Mopar Mayhem is an annual Mopar drag racing event presented by the Chrysler Owners Club of Queensland. This year the event was held at Lakeside Park Raceway (although in previous years it's usually been held at the Queensland Raceway). The gates open at 11.30 am and as their literature clearly states, *"...bring the family, bring your mopars!"*

Organiser **Deb Young** makes no bones about how and why *Mopar Mayhem* was designed. This event is actually run each year to compliment the older *Mopar Sunday*, a precursor deliberately on the same weekend... and many local identities like **Geoff James** and **Aaron Henry** capitalise on that to enjoy the big Queensland doubleact. There is no financial benefit for this event, the Owners club just like to see everyone round out a great weekend.

To enter online it costs \$100 per driver while it becomes \$150 on the day. There is a \$10 gate entry and gold coin donation for passengers (as a form and arm band is required for everyone). Mayhem includes cruising (family friendly – with all welcome to take part as a passenger), a race-your-mate competition, mini sprints and power skids. There's also usually a burnout event too (although this was not available this year). However Deb sheepishly jokes *"...if you feel the need to do this, come use my driveway... maybe"*.

Queensland is a big joint, with huge **Mopar** communities in both Brisvegas and the Gold Coast. But the two big Chrysler clubs in Queensland seem to really get on well and work together, making the sunshine state the place to be for Mopar motorsport.





# takin' care of business

## MEMBERSHIP DAY

SUNDAY JUNE 24

Yet another memorable day on our event calendar. For the third time in twelve months we got to bring our cars under the roof of the MAB at Tonsley.

We are really pleased with the way the second **Membership Day** at Tonsley turned out. We didn't keep official attendance numbers but are confident there were twice as many classic **Mopars** this year compared to 2017. It turned into a mini-show really, with quite a few people spending the whole day there. We once again got coverage from both **Channel Nine** and **Seven** in their evening news bulletins.

There was a steady stream of people coming and going across the day renewing memberships, having cars inspected, checking out the other

vehicles and chewing the fat. Thanks to the crew at **Pony Express** with their quirky coffee van (an old horse float) for stepping in at very short notice and keeping the punters fed and watered.

Thanks very much to the Committee, authorised officers, traffic marshals and other volunteers that made the day flow very smoothly for everyone.

**Stuart** was over the moon not to have to process a single log book the week following the event – a great outcome all round.

– Iain



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## GOLD RUSH

**Wow, what a weekend! A must for Mopar fans. If you haven't been, you need to – its a great experience for mates with a love of Mopars. Bendigo rocks.**

The weekend started with **Damian, Rob, Matt** and myself meeting up in Tailem Bend for a wet and wild drive over to Bendigo – experiencing a ton of fog and rain on the way. We stopped several times for photos, including one at the now famous silos in Coonalpyn. Next stop was at Tintinara to pick up **Colin** in a beautiful silver Charger, and then onto Bordertown to pick up **Brenton** in a nice white VF (both are now new members). We arrived in Bendigo about 4:30 where we meet up with **Stuart, Rob, Jenny** and the **Hastwells**. Weather was great for the rest of the weekend – just a little chilly in the morning, it's the first time I have ever scraped ice off the car.

Saturday was registration day and cruise day. The cruise started in Bendigo at Lake Weeroona with about 200 cars. We cruised for about an hour dodging a cycling event that saw about 100 cyclists using the same road as us.

We then arrived at **Rod Hadfield's** museum in Castlemaine. Wow! What an incredible display of automotive genius with around 20-30 cars on display – all with modifications of some sort. The workshop was to die for and every person looked on with envy. Rod gave out a few awards for his favourite cars on the cruise and told a couple of stories. He has a great history with salt lake racing and driving the streets with a highly modified **Chev** running a **Spitfire** engine.

After leaving there we stopped at a truckstop on the Hume Highway for a photo shoot. Saturday night was a dinner dance with a live band and around 150 attended, but not too much drinking because we are 'responsible'! We did walk out with around a dozen door prizes and a bunch of new friends though.

At the Sunday show day we all started to gather in the central square of Bendigo, beautiful green lawns and trees surrounded by **Mopars** – a great setting. We had about 10 cars as a club display, with around 250 in total at

the show. There was a wide range of cars on display of a very high quality, and a bunch of swap meet sites with a good range of parts were on offer. There was lots of food options including cafes and hotels opening up for the occasion. A great chance for retail therapy for some.

There was an MC onsite reporting live throughout the day, keeping us informed and doing a few interviews with the owners of the cars on display. Also a nice touch was when the presentations were made there was a big screen TV showing the winning vehicle as the award was announced.

To my surprise I won *Sponsors Choice Charger*. WOW! What a wonderful surprise – I was thrilled. And just to top it off the organisers of the show gave out FREE PIZZA to everyone. Bonus!

We all headed home on the Monday pleased that all the cars ran like well oiled machinery as they should... the only minor hiccup was a blown headlight. A great weekend was had by all.

Don't forget. Mopars are for driving, not hiding. See you all next year!

– John Leach











ALBURY WODONGA  
CHRYSLER CLUB

SUNDAY 22/4/18

THE annual Chryslers On The Murray is the biggest Mopar show and expo in the southern hemisphere, and for the 26th running of the event, 855 entrants from all around Australia rocked up to Albury-Wodonga on the Victoria/NSW border.

It was an action-packed weekend for Mopar fans, with a massive show 'n' shine and swap meet held at **Hovell Tree Reserve**, go-to-whoa driving events out at **Wodonga TAFE's Logic Campus**, the annual **Ettamogah Pub** cruise, and street cruising around town going late into the night. Every year at **COTM**, particular models are pre-selected to be the focus of the show.

This year the spotlight shone on the AP5, AP6 and VC **Chrysler Valiants**, as well as the **Javelin/AMX** in a gathering put on by the **AMC Rambler Club** to celebrate 50 years of the Javelin's release. It's pretty rare to see 46 AMC's (20 of them Javelin/AMXs) all parked in the one spot in Australia.



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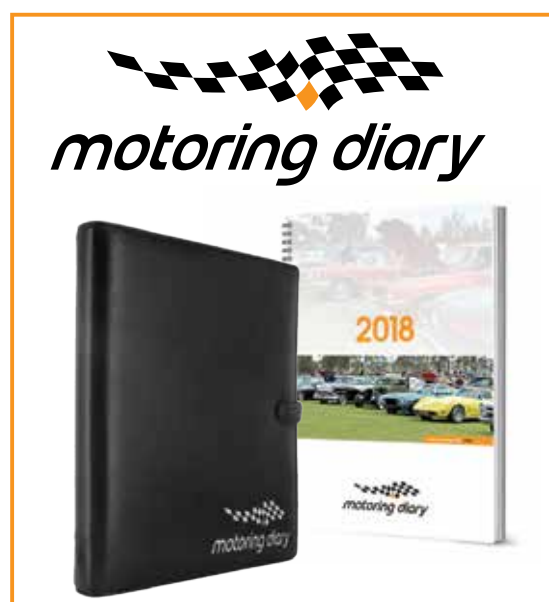




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Event	Date/Time	Location
Hot Rod Show: Road Rats & Customs	Sunday October 21, 8:00am	Strathalbyn (meet at Frewville Shopping centre)
Coast FM Open Day	Sunday October 28, 9:30am	Glandore Community Centre
Cars & Coffee <i>Visit Horsepower Crew on Facebook</i>	Sunday October 28, 8:00am – 2:00pm	Woolworths Blackwood
Kenny Blake Festival of Horsepower <i>Visit Horsepower Crew on Facebook</i>	Sunday October 28, 9:30am	Strathalbyn
Breast Cancer Cruise <i>CCCSA cruise</i>	Sunday October 28, 9:00am	Mile End Homemaker Centre
CCCSA November 2017 Monthly Meeting <i>Monthly Meeting - come and join and chat to fellow Chrysler enthusiasts. Visitors welcome. Meetings are informal and friendly. Dinner available from 6pm prior to the meeting</i>	Tuesday November 5, 7:30pm	West Adelaide Football Club, Richmond
Cruise for Sarah! <i>Hosted by Horsepower Crew and Coffee N Chrome. Visit Horsepower Crew on Facebook</i>	Sunday, November 11, 8:00am – 2:00pm	Mile End Homemaker Centre
Street Machine Drag Challenge 2018	Monday November 12, 9am-3pm Tuesday November 13, 9am-3pm Wednesday November 14, 9am-3pm Thursday November 15, 9am-3pm	Calder Park Raceway Swan Hill Dragway Sunset Strip, Mildura Swan Hill Dragway
CCCSA Family Day	End of November	TBA
CCCSA December 2017 Monthly Meeting <i>No regular monthly meeting for christmas breakup. Tour of the workshop and BBQ</i>	Tuesday December 3, 6.30pm	Wiltshire, Marlestone
CCCSA Xmas Sleepover	End of December	Anchorage Hotel, Victor Harbour

Please note: the January monthly meeting will be **THURSDAY January 3** (NOT Tuesday 1) – still at WAFC.

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4 x 22 inch rims and new tyres to suit 300C \$500

– Paul Williams 0423 029 684

Pro-flow 4 EFI system for Chrysler 360 motor.

– Leo Demitriou - [leo@plumbfast.com.au](mailto:leo@plumbfast.com.au)

Green speedo drive gear to suit valiant with a 3.5:1 diff ratio with a Borg Warner transmission.

– Suzannah Lambert 0421 899 704

Chrome bumpers suit VK-CL, both front and back.

– Evan Lloyd 0439 869 232

Reproduction brand new rubber seals for Charger and Coupe.

– Richard Peake 0418 831 283

Thermoquad – suit rebuild. Small primaries 1 3/8 \$100.

Edelbrock Torquer Manifold

Holley Street Avenger 4bbl Suit 383-400 \$650 ono.

– Damian Tripodi 0412 693 213

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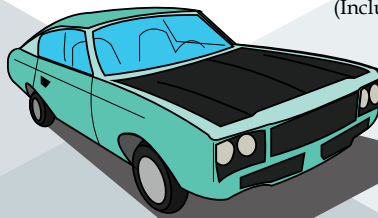
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# KNOW YOUR COMPETITION

## Your E-Z ID guide to the traffic light GP



Type: Oversight & Underpowered

Reaction Time: 5 seconds (when mobile phone not in use)

Risk Rating: 3

Tips: Not much cred to be gained from dragging a Rangie off the lights, especially if it's towing a boat. Good ego booster if your car is not on the northern side of the horsepower chart.



Type: Volvo Culture

Reaction Time: 2-10 seconds depending on strength of glasses

Risk Rating: 5

Tips: Approach with caution. This one might not race, but its wandering, near-sighted driver might very well remember old age automatically grants him crash immunity.



Type: Pushrod Pusher

Reaction Time: 0.001 seconds (0.05 seconds if holding can of beer)

Risk Rating: 8

Tips: Rates highly on the cred list. Drag one of those off the lights and receive instant recognition and accolades from your peers. Also be cautious if the engine sounds a bit too healthy - it could be running an engine just pulled out of the race car 'for a bit of fun'. Avoid pulling alongside at lights if he is beaten - a shotgun blast cannot be buffed out with polish.



Type: Goat Herder

Reaction Time: 7 seconds (when not entertaining goats)

Risk Rating: 2

Tips: Dragging a Goat Herder off the light is more a necessity than a challenge, as they have a habit of once in front, slowing the pace. Get ahead of steer clear unless you're particularly interested in spending the afternoon washing goat shit off your car and patching up dog bites on your mirror.



Type: Underprivileged Acnemaster

Reaction Time: 1 second (0.5 sec for a P-Plater)

Risk Rating: 7

Tips: An easy target for impressing your friends. Might have a quick reaction time but by the time the old rusted blows its quota of smoke and drops half of its oil on the road, you should be well on your way. Double cred points if a P-plater.



Type: The Holy Grail

Reaction Time: -1 second

Risk Rating: 10

Tips: The Fast Fours Golden Rule says: if it's white, has blue stripes alongside of it and flashing lights on the roof, YOU LET HIM WIN. Marrickville Impounded Vehicles Yard is full of cars once belonging to owners who have failed to adhere to The Golden Rule.



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