



Newsletter # 5 **29 Apr 2010**

RENAULT Sport & Alpine EXPO

Brisbane – 9 July to 25 July 2010

What's it all about? If you missed the first three RSAE Newsletters and are wondering what the RSAE is all about, please read page 5.

Something New



The new Renault Formula 1 - R30 in action at Barcelona

Something Old - Alpine A442B Le Mans



Alpine A442B Le Mans

The articles below have been 'borrowed' from a number of sources, with some commentary provided by your HS himself. I have tried to edit the articles below to ensure that I don't repeat my blunder/s regarding attaching the Renault name to all Alpines, but if I have slipped up anywhere, I apologise in advance! You will notice that there is some inconsistency in the specifications for the A442B. See how many difference you can spot.

At the end of the very disappointing 1969 season, Alpine withdrew from sportscar racing and focused on rallying with the A110. After considerable success was scored in rallies like the Monte Carlo Rallye, Alpine once again tried their fortunes on the track. From 1970 there was a European championship for two litre sports cars which was dominated by the British Lolas and Chevrons. For the 1973 season Alpine prepared an all-French car to take on the British in the eight-round championship.

Renault-Gordini prepared a state of the art two litre V6, equipped with double overhead camshafts and four valves per cylinder. It was installed in a compact tubular chassis, suspended by double wishbones all-round. A glassfibre body completed the package of the A440, which was livered in the French 'tri-calore' of red, white and blue. The engine was good for about 270 bhp and the package looked competitive. Unfortunately the Jean-Pierre Jabouille and Patrick Depailler driven car failed to finish in the points once.

The next winter was used to sort out the reliability problems and improve performance which resulted in the A441, with an aluminium reinforced version of the tubular chassis. Against a full field of Abarth-Osellas, Marches, Lolas and Chevrons, the French team showed the modifications worked out and grabbed the title. Inspired by the success Renault increased the budget in an attempt to win the 24 Hours of Le Mans race. A relatively simple method of bringing the Renault-Gordini engine up to par with the 3 litre engines was by fitting a Turbocharger.

The sport's governing body, the FIA, had set a displacement limit of 3 litres for prototype racers. To compare forced induction with natural aspiration a multiplier of 1.4 was used, giving a maximum displacement of 2142 cc for a Turbo charged engine. This meant the Turbocharged Renault-Gordini engine was well within the displacement limits. Fitting the Turbo was the easy part, making it work for longer periods of time proved to be more difficult in those early days of Turbocharging.

Announced in January 1975, the Turbocharged A442 made its debut in the Mugello 1000 km race. It still shared the basic design of the A441, but with 490 bhp available it packed a lot more punch.

General specifications	
Country of origin	France
Numbers built	3
Produced in	1978

Major wins
1978 24 Hours of Le Mans (Didier Pironi / Jean-Pierre Jaussaud)

Engine	
Configuration	90° V 6
Location	Rear, longitudinally mounted
Displacement	2.138 litre/ 130.5 cu in
Bore / Stroke	89.0 mm (3.4 in) / 57.3 mm (2.3 in)
Compression	7.0:1
Valvetrain	4 valves / cylinder, DOHC
Fuel feed	Kugelfischer Fuel Injection
Aspiration	Garrett T05 Turbo

Drivetrain	
Chassis/body	fibreglass body on semi monocoque chassis
Suspension (fr/r)	four-link, coil springs, Koni telescopic shock absorbers
Steering	rack-and-pinion
Brakes	ventilated and cross drilled discs, all-round
Gearbox	Hewland 5 speed Manual
Drive	Rear wheel drive

included, it made a victorious debut, beating the Alfa Romeos home. Unfortunately this was the last victory for the team that season, who were usually let down by the unreliable engine. Problems continued to dog the team throughout 1976 and 1977; the cars were fast, but the finish proved too far away time after time.

Reluctant to give up Renault prepared three cars for the 1978 Le Mans race, backed up by a private A442 entry. The works team fielded two A442 in 'B' specification, equipped with a controversial windscreen, which decreased drag, but also driver visibility. The third car entered was the all new A443, which featured a longer wheelbase and a slightly larger engine. The A443 led for much of the race, but it was forced to retire with engine problems after 20 hours. Luckily one of the A442Bs followed closely behind and surprisingly made it to the finish.

Immediately after the painfully difficult victory, Renault withdrew from sportscar racing and turned their focus on Formula 1 racing. Today the problematic racing career of the A442 is forgotten, except for its second victory, which brought Le Mans glory to Renault and Alpine.

Pictured is the A442B on its way to victory in the 1978 24 Hours of Le Mans race. The controversial canopy style windscreen can clearly be seen.

Dimensions	
Weight	720 kilo / 1587.3 lbs
Length / Width / Height	4800 mm (189 in) / 1840 mm (72.4 in) / N/A
Wheelbase / Track (fr/r)	2310 mm (90.9 in) / 1420 mm (55.9 in) / 1430 mm (56.3 in)

Performance figures	
Power	520 bhp / 388 KW @ 9900 rpm
Torque	392 Nm / 289 ft lbs @ 8100 rpm
BHP/Liter	250 bhp / liter
Power to weight	0.72 bhp / kg
Top Speed	380 km/h / 236 mph in A443 form.

Victory in Le Mans 24 Hours – 1978



In the early 1970s, French honour at Le Mans was upheld not only by Alpines in the Index of Performance and the smaller capacity classes, but also by Matra, which with assistance from Renault, won Le Mans outright in 1972, 1973 and 1974. During that period, Renault was developing its own V6 cars, initially with atmospheric induction, but in 1975 adopted turbocharging. In 1976, Renault decided that it wanted outright victory for Alpine. The A442 was competitive for outright pace, but endurance was the

question. In 1976, the A442 lasted 11 hours. In 1977 with the A442, Renault was in mortal battle with Porsche who was also using turbocharging to boost power. One by one, the Porsches and the Renaults experienced turbocharger failure on the demanding 5km long Mulsanne straight. After 19 hours, the Bell/Jabouille A442 was leading the race when the first puff of fatal smoke was seen from the turbocharger. They retired soon after and Porsche, who was struggling with their own durability problems, was able to take over the lead and ease off slightly to save the car. Renault had to be happy with second place. However 1978 was a different story, with Renault having both a durability and speed advantage over Porsche.

Official Commentary: The **46th Le Mans 24 Hours** saw the black and yellow team to victory, when **the Alpine Renault-Elf #2 won one of the world's most prestigious events**. Driven by Jean-Pierre Jaussaud - Didier Pironi, the car clocked up 5,044 km at an average speed of over 210 km/h.

The Renault V6 engine had proved its worth since its launch in 1973. In that year it claimed its first victory as a sports prototype, followed by five others in 1974. In 1976 and 1977, the same engine was European Formula Two Champion twice in a row with Jean-Pierre Jabouille (Martini-Elf) and René Arnoux (Elf-Switzerland).

In 1975, it was boosted by a turbocharger, a technique patented by Louis Renault back in 1902, raising its power from an original 285 bhp to 520 bhp.

The V6 Gordini-Elf came close to victory in the Le Mans 24 Hours in 1977, finishing second behind Porsche. It took revenge in **1978**, when **two of the four Alpines entered finished 1st and 4th**.

Data sheet

Name: Alpine Le Mans A442/3

Model year: 1978

Engine: Renault-Gordini-Elf - six cylinders in a 90°V configuration with four valves on each cylinder in hemispherical combustion chambers - Capacity 2,138cc - Bore 89 mm - Stroke 57.3 mm - Power 520 bhp @ 9,900rpm. The engine used Kugelfischer indirect fuel injection and a boost of 0.95 bar, delivered by a water cooled Garrett turbocharger.

Gearbox: Hewland TL 200 MK2, five forward gears and reverse. Final drive ratio was 4.125 (8X33)

Brakes: Dual-circuit system with automatic self-adjusting brakes and ventilated front and rear disks.

Coachwork: Open-top two-seater with rear fin, central engine and rear-wheel-drive. The chassis was a tubular space frame typical of the period clad with an extremely aerodynamically effective fibre-glass body.

Suspension: Elongated hub carriers with wishbones front and rear. Longitudinal location was by leading links at the front and trailing links at the rear. Both front and rear used anti-roll bars and telescopic hydraulic dampers.

Dimensions and weight: Length 4.80 m - Width 1.84 m - Height 1.30 m - Wheelbase 2.466 m - Front track 1.486 m - Rear width 1.481 m - Dry Weight 761 kg. Fuel capacity 160 l. Front rims were 11" wide X 14" dia. fitted with 240 x 560 x 14 Michelin slick radials. The rear had 14.1" wide X 15" dia. rims fitted 350 x 660 x 15 Michelin slick radials.

Top speed: 362 km/h

Commentary

At Le Mans, fuel consumption under racing conditions was 60 l/100 km or about 4.7MPG. (To put this into perspective, when Jaguar first raced at Le Mans in 1950, fuel consumption was worse than 10mpg from a 200 bhp XK120. By 1957, when a D Type Jaguar won Le Mans for the last time, Jaguar was getting less than 6MPG from a car which developed about 300 bhp. Considering that the A442 developed nearly twice that power, achieve nearly 1,000km greater distance at an average speed about 50kph faster, 4.7MPG is impressive. Still, a 160 litre tank would last for just over one hour! For comparison, a 2010 F1 car has a fuel capacity of about 250 litre which is consumed over the race/warm up/slow down laps, a distance of about 330 km. Assuming that there's just a bit left in the tank at the end, that works out to be about 70 litre/100km, or 4 MPG in the 'old currency'. All things considered, the modern non-turbo F1 car is doing fairly well. The average speed may be slower, but there is far more braking and acceleration in a typical Grand Prix than at Le Mans.

Also, did you know that the turbocharger was invented and patented by Louis Renault in 1902. There really is 'nothing new under the sun'!!

Talking of turbocharging, in the 1980's, although reliable figures are difficult to obtain, Renault 1.5 litre Formula 1 engines are rumoured to have produced well over 1000 BHP in qualifying format. These were the famous 'hand grenade' engines which were common in that era, before limits were put on the number of engines a car could use in a season. An engine would be used for qualifying and then replaced with a less powerful but more durable one for the race! The current annual limit of eight engines per car per season would have lasted no more than four races!

Renault Alpine A442/A443



The Renault Alpine A442B, wearing the bubble canopy which was not popular with drivers, because it restricted visibility and make the car feel claustrophobic and trapped engine heat in the cockpit. However, this bubble was credited with adding 8 kph to the top speed!

What it's all about!

In June 2004, six members of the Renault Car Club of Queensland (RCCQ) attended the Alpine Recorde du Monde at Zolder racing circuit in Belgium. That event involved 667 RenaultSport, Gordinis, Alpines etc, from 52 car clubs and 16 different countries!

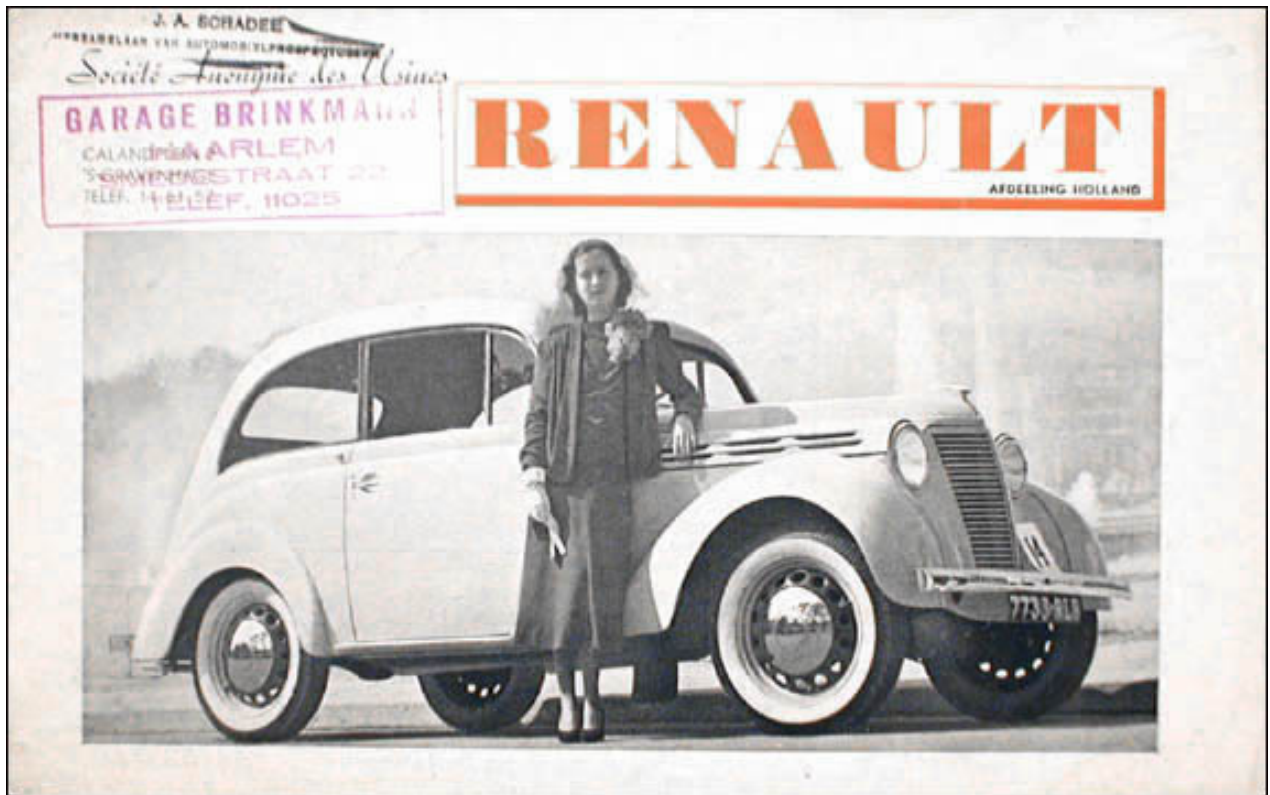
With the Alpine Recorde du Monde as inspiration, the RCCQ held the very successful Renault Sport & Alpine Expo – 2005! We now plan an even larger event, the RSAE – 2010!

The Planned Itinerary for RSAE 2010 is:

- Friday 9 July – Welcome Function 7.00 – 9.00 pm.
- Saturday 10 July – Scenic Drive on some picturesque SE Qld roads with an official assembly photo shoot and lunch at the destination.
- Saturday 10 July Evening – Gala Dinner 7 pm Robertson Gardens - includes an interesting guest speaker and a Renault memorabilia auction.
- Sunday 11 July – A Grand Display of French Cars starting at 9:30 am at Brookfield Pony Club Showgrounds, followed by a casual dinner for RSAE participants.

Optional additional events are:

- Monday 12 July – Track Day: A sprint event at a circuit near Brisbane.
- Tuesday 13 to Friday 16 July – Transit to Sydney along some interesting back roads.
- Sunday 18 July – Sydney All French Car Day.
- More driving excursions for those returning to Queensland, using a different route for a real Australian outback experience.



We do NOT expect any 1939 **RENAULT Juvaquatre**s to make along to RSAE 2010, although they would be very welcome!
If you know of one, please tell us!



We do, however, expect a few chic **Dauphines** like this 1960 model.

Interested?

An 'Early Bird' registration will expire on 30 April, so register straight away. Even if you are not ready to complete the Registration Form just yet, please let us know that you are interested so that we can put you on our emailing list for updates on RSAE 2010.

Also, determine your work/holiday plans & consider booking your accommodation early. It may help to keep an eye on the various forums, including:

<http://renaultinaus.17.forumer.com/>

Our regular RSAE Newsletters will keep you informed about the event and tell you of some of the Renaults that we are so enthusiastic about.

We would like to provide everybody with regular updates on RSAE 2010, but for that, we need your name and email address!!

Questions?

Contact us at 'enquiry@renaultclubqld.com.au' or telephone Ian Both (07) 3279 0509 or Phil Harrison (0419 885513).

Next Newsletter!

Remember, 2010 is the 20th anniversary of the release of the first Clio. Featured in the next issue of the RSAE Newsletter will be the Clio Renault Sport, and as they say in advertising'and much, much more!!'.

RSAE 2010 - the best RENAULT event in Australia ever.

