

HOT Air



Newsletter of the Vehicle Airconditioning Specialists of Australasia

April Issue 1999

National Secretariat: VASA (ACN 063 969 783) 30 Lexton Road Box Hill Vic 3128

VASA Wins Calsonic Support in Biggest Ever Sponsor Deal



At the sealing of the deal were (from left): John Blanchard – VASA Secretary; Bob Cartwright, Manager Sales & Marketing – Calsonic, Mark Mitchell – VASA President; Robert Pattison, General Manager – Calsonic, Glen Watkinson – VASA Vice President

THE
m
r
d
e
e
C
p
i
i
a
l
s
9
g

A U S T R A L I A
These products are developed and manufactured at their Melbourne plant.

As vehicle manufacturers increasingly require fully developed systems rather than unit components from their parts manufacturers, Calsonic has taken steps to ensure its position as a leading systems supplier offering advanced technologies and expertise.

Calsonic systems are developed and manufactured in-house with more than 1100 employees and tens of millions of dollars invested in research and development.

Calsonic was the first company in the world to realise the mass production of aluminium radiators, which are superior to copper-brass models in terms of heat conductivity, durability, size and weight. It was also the first company to manufacture parallel flow condensers in Australia.

Internationally, Calsonic was established in Japan in 1938 as a manufacturer of radiators, although prior to 1988, it was known as Nihon Radiator. Headquarters are still in Tokyo, with offices or technical joint ventures in the USA, UK, the Netherlands, Australia, Korea, Taiwan, Malaysia and Singapore.

Their contribution of \$12,500 is the biggest single sponsorship package in VASA's six year history. As part of the package, Calsonic Australia will seek to join VASA as a manufacturing category member.

Calsonic's decision is crucial to their move to broaden their interest in Australia's after-market air conditioning industry.

Sales and Marketing Manager for Calsonic, Bob Cartwright said that VASA, as the coordinating body of Australian and New Zealand after-market airconditioning specialists was an obvious starting point.

Calsonic Australia's main product lines include aluminium radiators, both parallel flow and serpentine condensers, aluminium heater

fun, sport and technology

VASA '99

6th Annual Convention & Tradeshaw

HILTON ON THE PARK MELBOURNE

August 27th - 29th

proudly sponsored by CALSONIC

A hallmark of Calsonic Australia's operations is the company's involvement from the project conception stage through production.

Melbourne Convention Preview



MELBOURNE based director and secretary-treasurer of VASA, John Blanchard, has provided three little words to cover the Convention theme in 99 – fun, sport and technology.

A strange mix, we hear you cry. Is technology fun and where does the sport fit in? All will be revealed, says John.

But in this special preview, we can say that VASA is going all sporty for Convention, which runs from Friday 27 August through to Sunday 29 August at Melbourne's Hilton on the Park. Directors will meet a day earlier, on 26 August for their traditional directors meeting.

It will be hard to avoid sport, what with the famous Melbourne Cricket Grounds across the street and the big golf tournament being organised by John and his troops.

So where does technology squeeze in. Technology is the theme for all the convention speakers and training sessions.

VASA wants to let the world know that it is keeping up with the rapid technological changes occurring in the vehicle airconditioning industry – not just with the consumables like refrigerant gasses and oils, but with the computerised brains which run most of a vehicle's functions.

As IMACA CEO Frank Allison told his 50th anniversary audience in USA recently, "Mechanical ability is no longer enough. Computer skills are vital in today's automotive service environment. Even with recruitment and training programs

- v Melbourne city tour
- v Tours of Carlton United Breweries
- v Tours of the Calsonic plant
- v Night tours to the penguin colony
- v A partners outing to Chadstone shopping centre – one of the biggest.

Members will need to make a choice of golf or tours for the Friday.

Of course there will be the big Trade Exhibition and welcome cocktail party, the annual dinner which will be an Australian bush theme with an international entertainer and a banquet breakfast on the Sunday morning.

Speakers are still being finalised, but there will be an emphasis on new technologies from international and Australian speakers.

VASA's annual general meeting will be held as usual at the start of the Saturday convention, prior to the speakers.

So that members can plan their trip, here's the time schedule for bookings.

Mid May: All members will have received their Convention Registration Forms, with full details of costs, tours, accommodation etc. Early bookings will be encouraged through prize incentives.

Mid June: All members will receive a reminder form.



designed to attract young people to the industry, we are facing a critical shortage of technicians in the United States."

At this early stage, features of Convention 99 in Melbourne are likely to be:

- v An optional open golf tournament all day on the Friday, with prizes being a feature of the annual dinner on Saturday night
- v Tours of the MCG, including the cricket museum, members' long room and the Olympic Museum
- v Lunch on Rialto Tower, Melbourne's tallest building

By now, all previous exhibitors at VASA's trade exhibition will have received a Trade Exhibition Registration Form.

If previous years are any guide, you will need to respond quickly to ensure your space allocation.

However, if there is anyone out there who would like to be an exhibitor for the first time, please contact John Blanchard as soon as possible.

If any previous exhibitor has not yet received a registration form, please contact John Blanchard also.

Convention contact points are:

Phone: 03 9890 7082
Fax: 03 9890 0061
Email: johnb@melbautoair.com.au



The Melbourne Cricket Ground

Mid July: A final chance for registrations, contained in the Hot Air newsletter

August 15: Registrations close, but please don't wait till then. It helps convention planning if members make their bookings early.

RTP prepares for its first graduates

GRANT HAND



TRAINING COORDINATOR

RTP CERTIFICATES

The RTP philosophy was to create a broad based network of professional and highly skilled technicians with a knowledge platform to support that skill base.

The skills are of course largely gained through work experiences, actually confronting problems and addressing those problems individually or seeking help and guidance from other technicians.

Previous to the current technology explosion within the automotive industry the knowledge to support the skills were largely also self taught – because in many cases the technician could actually see, or readily interpret what was happening in systems during repair and diagnosis.

TIMES HAVE CHANGED

With complex systems, particularly those featuring electronics, it is vital that technicians are kept up to date with the control and logic circuits and how they work, otherwise diagnosis becomes almost impossible.

With the acquisition of a knowledge base to support the technicians' on-the-job skills the end

The graduates
The technician

result is the complete technician that can interpret, analyse, diagnose and repair modern air-conditioning and control circuits.

From a certification perspective, VASA, supporting its ethic of a pool of professional technicians, must ensure that the knowledge that is provided through the RTP is read and interpreted correctly. Our only way of monitoring that this occurs is through questionnaire.

For this reason certificates will only be issued to technicians who have returned all six questionnaires by June 30 1999.

Questionnaires will be 'returned to sender' or technicians contacted ONLY if there are significant concerns with their answers. In these cases, a new questionnaire may be sent.

RESULTS

All results are graded and entered onto a VASA data base so that progress and trends can be easily plotted.

These results are confidential and are only available at the specific request of the technician.

Don't be frightened by the RTP. It is VASA's role

to guide and support all RTP technicians at any time should it be necessary. Simply fax the RTP coordinators with any query or problem.

PORTABILITY OF CERTIFICATES

Certificates are issued to individuals for the year in which the RTP is completed and questionnaires returned for checking.

It is the individual who undertook the program who has ownership of the certificate - not the workshop or employer.

The certificate travels wherever the technician works. It is his/her verification that the course has been completed and that they have the skills to offer any employer or to their own business.

VASA will not enter into any debate about the relationship of certificate ownership to 'who pays'. **It is pure and simple - the RTP is for individual technicians, not the workshop or company who employs them.**

The technician is enrolled, the technician does the work and the technician will receive the certificate. If more than one technician is enrolled in the program then a single business

may have multiple RTP certified technicians.

EMPLOYER RESPONSIBILITY

Although the responsibility for active RTP participation rests with the individual technician there are marketing benefits for the business.

A workshop should promote the fact that they have RTP technicians and they should be proud to do so.

It is therefore extremely advantageous employers encourage the enrolled technicians to actively participate and receive certification.

RE-ISSUE OF QUESTIONNAIRES

Should one or more questionnaires have been misplaced please contact RTP coordinators on fax (08) 8289 4260 or phone (08) 8251 3894 for a reissue of questionnaires or RTP Bulletins.

Questionnaires are normally FAXED BACK to enable technicians to file the original questionnaire. However if this can't be done for any reason, please ask for two questionnaires plus a mailback envelope through one of the numbers above.

RTP prepares for its first graduates

Continued from previous page

This enables technicians to retain one questionnaire and not be 'out of pocket' for postage.

RTP FUTURE DIRECTIONS

The initial RTP Bulletins were largely concerned with principles of operation of refrigeration and electrical/electronics, with later Bulletins (notably 1999) progressing into the more specific applications of the principles.

Future Bulletins will continue along these lines

of providing some fundamentals of operation for the various refrigeration and control systems and some system specific information.

As far as the fundamentals and principles are concerned, there will be a natural progression into systems and components of greater complexity, with the initial Bulletins providing the knowledge platform.

This approach allows us to provide for a deeper understanding of even the most complex control systems, with the advanced concepts being 'bled in' slowly.

Together with the provision of advanced fundamentals we will continue to provide later system information (ie variable displacement compressors, electronic control systems etc) as the need arises.

The provision of later system technology information is largely based on industry feedback (ie your feedback plus field data) about where you are experiencing problems (ie fan switching – Bulletins 5 and 6). Topics 'earmarked' for future Bulletins include balancing of dual evaporator systems, interpretation of gauges on variable

pump systems and EPR valve systems.

Any additional feedback or requests on what you would like to see included will be greatly appreciated.

THE INDUSTRY FUTURE

The end result of the RTP and associated VASA initiatives is to accumulate a pool of professional technicians nationally respected as the experts of the industry. Without this philosophy in an increasingly competitive service industry, many businesses are very likely to fail.



The FAQ of the RTP

THE RTP is rather unique in that it is a CONTINUING or an ON-GOING program. It does not start back at the beginning every year, like school grades. This is because the RTP must keep pace with automotive technology which itself is changing rapidly.

In other words, a new technician enrolled in Year 2 of the program, will have already missed out on the course information of Year 1.

VASA does not wish to deny this knowledge to any member or technician, so it has brought down this set of policies for the RTP which all members should read and note.

In time, the issue of past RTPs will be solved by the new VASA website, still being developed. A member will, within the next few months, have access to this information on-line, at

no cost other than the standard membership.

So here are the most Frequently Asked Questions about the RTP.

- ❖ The RTP was started in April 1998 and each program runs a full year ending on March 30 - in line with VASA membership renewals.
- ❖ The RTP is **COMPULSORY** on all VASA members, who must register a minimum of one technician every year.
- ❖ It is the technician – not the workshop or the company or the employer – who undertakes the RTP (unless of course the proprietor and the technician are one and the same people).
- ❖ The nominated technician receives technical bulletins and a questionnaire every two months during each annual program.
- ❖ The questionnaires must be returned to the VASA training coordinator within **TWO MONTHS**

of receiving them. The return of the questionnaires is one of the prerequisites for receiving the RTP Certificate.

- ❖ If the coordinator is satisfied that the technician has absorbed and understood the contents of the Bulletins, VASA will issue that technician with an RTP certificate **FOR THAT YEAR ONLY**. In other words, it is an annual certificate, issued only after a year of RTP activity and returning of questionnaires.
- ❖ The Certificate is portable – it goes wherever the nominated technician goes – and so too do the RTP Bulletins.
- ❖ If the technician chooses not to return the questionnaires, he/she will not be issued with the annual Certificate.
- ❖ Membership renewals for 1999/2000 which were recently sent out from the Secretariat, require that all members must nominate a techni-

cian for Year 2 of the RTP.

- ❖ The preferred choice is of course to renominate the technician or technicians who started the RTP last year.
- ❖ Any member can nominate more than one technician to undertake the RTP. The first nominated technician is already covered in the membership fee. All additional technicians nominated will cost \$100 each for the year.
- ❖ If a member wishes to nominate a new technician for Year 2 RTP, the nominated technician will begin the program at Year 2 – not Year 1.
- ❖ For those new enrollments who may wish to recap on Year 1 RTP Bulletins (which will not be subject to questionnaire or Certificate), these can be purchased for printing, handling and postage costs only of \$60 for the full year's set. To order these, simply fax 08 8289 4260 or phone 08 8251 3894.

Face to Face Training



TRAINING COURSES

COURSE 1

Principles of Automotive Airconditioning

For technicians entering the industry or requiring theoretical underpinning.

DURATION: 8 hours

COST: \$160

CONTENT:

Principles of refrigeration
Pressure/temperature analysis of systems
Basic fault finding
Servicing procedures
Basic electrical circuit diagnosis

COURSE 2

Advanced System Diagnosis/Retrofit to 134a

For technicians with an established understanding of the operation of automotive airconditioning systems.

DURATION: 16 hours

COST: \$260

CONTENT:

Advanced system diagnosis and fault finding
Detailed system analysis to enable critical evaluation of systems
System flushing procedures
Detailed component evaluation
Special systems analysis
System design analysis

COURSE 3

Electrical Fundamentals/Circuit Diagnosis

For technicians to become familiar with electricity and electrical circuits. Arms technicians with knowledge to do basic circuit testing/fault diagnosis, and is a preparation for Courses 4 and 5.

DURATION: 8 hours

COST: \$160

CONTENT:

Fundamentals of electricity
Test instruments - uses, care and calibration
Basic circuit analysis and testing
Switch types
Relay types
Interpreting wiring diagrams

COURSE 4

Electrical/Electronic System Analysis

For electricians with a basic understanding of the fundamentals of electricity or have completed the course in Electrical Fundamentals/Circuit Diagnosis

DURATION: 8 hours

COST: \$160

CONTENT:

Semiconductor devices - diodes, transistors, thermistors
Logic circuits
Principles of switching/voltage drop testing of
Power switched circuits
Earth switched circuits
Circuit diagram analysis of control circuits
Thermostat circuits
Thermister circuits
Electronic control systems control circuits
Testing on above devices and circuits

COURSE 5

Electronic Climate Control Systems

For technicians with a comprehensive understanding of vehicle electrical and electronics or have completed all preceding electrical and electronic courses.

DURATION: 8 hours

COST: \$160

CONTENT:

Detailed analysis of full electronic climate control systems including:
Input devices (sensors)
Output devices (actuators - blower speed control, duct switching air mixing, air sourcing)
Control unit functions and testing
Blower speed controller testing
Duty cycles and pulse width modulation principles
Full circuit analysis and pin-point test analysis to be conducted on Ford and GM systems.

COURSE 6

Special Systems Diagnosis and Servicing

For technicians with a comprehensive understanding of automotive airconditioning systems.

DURATION: 8 hours

COST: \$160

CONTENT:

Operation and evaluation of EPR or STV systems, orifice tube systems and Hot Gas Bypass Systems
Includes system diagnosis and charging procedures on the above systems
Analysis of both genuine and aftermarket dual evaporator systems

Those Elusive Leaks



S o m e

F^o

R

y

e

a

T h o

u g

h

National Job Card Likely for Members

A VASA team headed by vice-president Glen Watkinson is working on a set of national standards for retail workshops as part of the concerted effort to promote the VASA network.

A national job card and code of practice sheet is likely to be first off the rack, followed by service labels.

Adoption of national consumer standards means that consumers come to recognise the VASA symbol nationally as being synonymous with service ethics, consistent technical advice, fair pricing and portable warranty.

Glen Watkinson and Grant Hand floated the

national job card concept at a recent South Australian committee meeting, with great feedback.

One suggestion which is still unresolved, is that a chargeable inspection be performed before any repair work is carried out. This received a mixed reception from SA members, because they were concerned that it may work with some clients and not with others.

SA committeeman David Jackson suggested the VASA brochure be upgraded to incorporate a warranty card and code of practice, so that the customer could keep it in the glove box. While this was well received by SA committee, the debate still came back to "how do

VASA members ensure their market share."

Greater public awareness is still an imperative.

The question arises. How many members have disposed of all of their VASA "What Gas in my car" brochures. There haven't been many requests for more copies. Are we all doing enough to promote the VASA network.

In a few months, the VASA website may help to address a number of these communication issues. Until then, VASA would appreciate feedback from members. Simply refer to the Reference Directory on the backpage and fax your point of view to your state chairperson or director.



... Continued from page 6

And with half the on-the-road fleet consisting of HFC-134a cars, the price of refrigerant isn't as much an issue. In addition, how much do heated diode sensors really cost? If you buy right, they're not overly expensive. And if you keep them as clean as possible, you don't have to replace them that often. But it's tough to argue with 'favorite' procedures.

Just a caution: the regulators on the dry nitrogen supply tanks are not the most reliable, and if you get a surge, it can take out an evaporator. It might be a better idea to check for the large leak with a corona discharge detector (you probably have one of those too, even if you 'swear by' the heated-diode type).

VASA IS BEING HEARD



The value of VASA's experience in the automotive airconditioning industry is rapidly gaining momentum.

As a result of sheer persistence by the executive since formation in 1993, VASA is now recognised by many government authorities as the real experts. This gives members a greater degree of security from slap-dash regulation or, worse, regulation by default through lack of vigilance.

Most of VASA's policy

matters on technical issues are taken to top level board tables by committeeman Chris Lindeman.

He was delighted to report that VASA had achieved what he saw as a more formalised role in Government affairs when he was invited by Environment Australia to sit on the steering committee for the Review of the Year 2000 National Ozone Protection Program.

The first meeting, which developed a workplan for the review, was held in January this year.

VASA's GOAL

VASA is well focused on its ultimate goal of being a leading provider of training in the airconditioning and refrigeration industry.

VASA's primary role could be summed up as assisting those in the industry through information sharing, protection against repressive legislation, consumer education, and overall improvement of standards to meet new technologies.

The linchpin which holds these ideals together is training.

The RTP, well covered in this issue of Hot Air, has been enthusiastically received and it will undoubtedly get better as the workforce becomes used to the idea that high technology demands specific knowledge.

The ultimate, however, is to have VASA become Australasia's leading accredited provider of training.

According to president Mark Mitchell, this will involve much more than simple airconditioning techniques.

"We have to develop our capabilities to encompass all environmental issues to do with the handling of refrigerants and the wider issues of advanced climate control systems, heat exchange technologies and lubricants." Mark said.

Work Hard — Play Hard That's the Auto Temp Motto

Member Profile No. 2

NEW Zealander James Ritchie manages to be wildly enthusiastic about everything he does — and in one week that can range from helicoptering to a remote island to service an airconditioning system, preparing the company Speedcar for the Super Series in Australia or a late night session at the Melbourne casino.

James is the high profile founder and owner of Auto Temp, in central Auckland, New Zealand. He is New Zealand's version of Australia's 'Sentimental Bloke' a knockabout larrikin who just can't say NO to an airconditioning challenge or a good prank.

He was among the pioneer airconditioning professionals of New Zealand who put up their hands to launch VASA across the Tasman and he now serves on Barry Rogers' committee. He and some of his leading technicians are regular attendees at VASA conventions. You really can't miss them.

James founded Auto Temp in the late 80s, after a career in the commercial and industrial airconditioning and refrigeration industry.

He began on his own, working from a shared workshop with an auto



Mike Jordan with the Auto Temp 'Speed Machine'

electrician in Panmure, an industrial suburb of Auckland.

He soon developed a reputation for inventiveness in coping with the most obscure of airconditioning problems and from this emerged his company slogan "Can do". He and his team

offers round the clock service to industrial equipment operators and heavy transports who can't afford to be off the road too long.

Late nights are common and his team frequently fit air conditioning systems overnight.



The Auto Temp team (left to right): Tod Waters, Matt Richardson, Tony Conaham, Leon Schroder, James Ritchie, Mike Jordan and Blair Davy.

refuse to say "It can't be done".

This often involves burning the midnight oil. From one of New Zealand's best equipped workshops, his team

The company's mobile service runs from a sporty fleet of maroon Ford station sedans.

James' great interest in motor vehicles and motor racing has given

him a competitive edge and helped to grow his business quickly. Auto Temp is better known in motor racing in Australia than in airconditioning, however, with their highly successful campaign on the speedway circuit in recent years with the company sponsored Speedcar.








Auto Temp was among the first to see the need to move to more environmentally friendly HFC refrigerants and is one of the leaders in retrofitting to R134a. Auto Temp has a strictly enforced mono refrigerant policy and condemns the use of blends and HCFCs.

The company has a team of eight qualified technicians, led by service manager Todd Waters who has 15 years industry experience.

James Ritchie travels to Australia regularly with the Speedcar team. Typical of their style, the car has created a mini sensation on the Australian circuit. Driver Shayne Alach, son of former New Zealand champion Ray Alach who raced for about 30 years, painted the car himself. On the side panel, it reads, "Shayne Alach — Suicide jockey". They really do things differently in NZ.

Forget all the sheep jokes — there's nothing sheepish about the Auto Temp team.

VASA heads for Cyberspace

Members 	Directors/Committees  	Buy & Sell	Help for Car Owners	Current Issues	Annual Convention	News Releases			
Hot Air	Policies	Sponsors	Publications	Refrigerant Gas	Links	Members List	Insurance Repairs	How to Join	What's VASA
Technical Library 			Training		RTP - Registered Technicians Program 				
Legend -  = Restricted Site  = Mailbox									

VASA will soon join the ranks of other organisations who are solving their communication needs through the internet.

The directors, at their last meeting in Melbourne, gave the green light for immediate work on the web site, which will be carried out by VASA's corporate affairs consultant and Hot Air editors Ken Newton and Joy Davies.

The site will be a comprehensive one - accessible by members of the motoring public, government officers, kindred organisations and of course VASA members.

The membership will find it particularly useful. For example, all past

RTP bulletins will be available, free of charge - but to members only. Every VASA member will be given a coded password for access to the Members Only pages. In here will be stacks of technical information as well as the former RTP bulletins.

On the open pages will be information about VASA's work, how it looks after the interests of motorists, a full member directory, links to members own pages, details of the annual convention, current issues and much much more.

In time, the website will be capable of taking convention bookings and even taking your money for things like membership fees, the

convention and anything else that VASA has available for sale.

There'll be a members' chat room, where problems can be aired and technical riddles solved.

There'll also be a special media section, where up to date media releases on a range of issues will be maintained. Media will simply download the information as they require it.

VASA president Mark Mitchell and his directors are fully committed to the development of the site and see it as a way of sharing more information with members and maintaining interest in the workings of VASA.

The website will also become a vital communication device to insur-

ance companies, the EPA and other government regulatory authorities.

Ken Newton doesn't want to make promises he can't keep, but suffice it to say that it is a priority job at his office. The site will probably be up on the web within two months, even if incomplete in some areas.

It will become a continuing project, with emphasis on keeping the site refreshed with information for both motorists and members.

Members will be advised on progress. In the meantime, please respond to the new membership renewal notices with your email addresses and if you have them, your own website addresses.



THE KYOTO SUMMIT AND WHAT IT MEANS TO YOU

FROM CHRIS LINDEMAN - VASA CORPORATE AFFAIRS

More than 160 countries met in Kyoto Japan in December 1997 to discuss potential controls and reduction targets for greenhouse gas emissions for developing countries.

The 38 participating industrialised countries agreed to an overall reduction of greenhouse gas emissions of 5.2% from levels recorded in 1990.

Each Country has a reduction target. For instance, the European Union has a reduction of 8 % from 1990 levels, New Zealand and the Russian Federation levels are set at their 1990 emission levels and Australia is allowed to increase emissions by 8 % over its 1990 level.

For Australia, this represents a 35% reduction from a 15 year projected emission level of greenhouse gases. It means we still have to dramatically reduce our emissions to achieve this target.

The six greenhouse gases covered are: Carbon Dioxide (CO₂), Nitrous Oxide (N₂O), Methane (CH₄), Perfluorocarbons (PFCs), Sulfur Hexafluoride (SF₆) and Hydrofluorocarbons (HFCs).

The treaty is expected to be ratified at the next meeting of the parties some time this year.

The vehicle air conditioning Industry is affected by only the HFC gas group and in particular HFC134a.

As with CFCs and HCFCs there is a rating system. In this case it is based on CO₂, where CO₂ is one(1) with a life span of 100 years, HFC134a is one thousand three hundred (1300) with a life span of 6 years.

It is expected that accreditation of technicians will be upgraded to include HFCs and will require training and authorisations similar to those for CFCs and HCFCs.

Codes of Practice will be upgraded to reflect a national perspective covering HFCs with probable support by Government regulation.

An industry-supported recovery program for HFCs will be promoted to the industry and a ban on disposable containers that contain HFCs is likely.

There is no plan at this time to impose a levy on HFC refrigerants however this with many other options are still open for discussion and a management strategy is expected to be in place by the end of 1999.

In The Courtroom An Expert Can Soon Become Ex = the unknown quantity Spert – a drip under pressure



As expert as VASA directors may be in their trade, they have decided not to fall for invitations to be "expert witnesses" in court.

A firm of lawyers "invited" president Mark Mitchell to be an expert witness in a case of injury caused by an explosion of a refrigerant gas in a workshop situation.

Despite asking many questions about the workshop and work practices, the lawyers were very vague.

VASA directors voted not to get involved.

If anyone is ever tempted, *Hot Air* suggests you rush out and buy Evan Whitton's latest thought-provoking book on the Australian legal system, called "The Cartel" and turn to Page 96.

The more one becomes exposed to so-called justice in our society, the more one finds that the seeking of truth has nothing to do with how justice is done.

In Australia, expert witnesses are appointed by the lawyers for either side. In the European system, experts are appointed independently by the court.

Whitton quotes a leading defense lawyer who decries the inevitable result – two expert witnesses on opposing sides, battling to deliver up the best expert evidence for their particular patron.

It simply develops into a messy argument, in which a brilliant lawyer can make an expert look like a dawd. Whitton's book sums up "the more measured and impartial an expert is, the less likely he is to be used by either side." So much for truth.

Let the lawyers continue to fight their childish games in court – VASA will concentrate on delivering expert opinion where it matters most – on the workshop floor.

The case also brought forth a comment from president Mitchell that members should discourage visits into the workshop by customers with time on their hands.

This is fraught with litigation dangers in the case of accident or injury and should be discouraged by all members.

It's one thing to feature an open kitchen in the middle of a restaurant, it's entirely another to allow patrons inside the kitchen to stir the sauce.

Put in a big glass window to allow customers to see how professional your workshop operates, but encourage them to "stay out of the kitchen."

Members can pick up some very interesting information about the miscibility of some of the new oils on the US market at this website <www.autofrost.com/oil/index.html>.

Some of the refrigerants mentioned are now available in Australia so the information is very relevant.

President Mark Mitchell's only comment was, "See for yourself...it's very interesting."



ACTING on the premise that next year, 2000, will be a good year to be somewhere else (unless you can afford to go to the Olympics), VASA is taking its convention to Auckland, New Zealand.

The February directors meeting voted unanimously for the NZ convention, and NZ committee chair Barry Rogers and his team are enthusiastic about the visit.

New Zealand shows its enthusiasm for VASA by turning up in force at all directors meetings and conventions and they are hot onto the issues affecting their industry.

The NZ contingent will be mounting a promotion of Convention 2000 at this year's Melbourne convention.



On the President's Mind



I PICKED up an Australian auto magazine and there it was – do-it-yourself 340g recharge bottles of R134a.

So much for this nation's attempts at environmental responsibility over the past decade.

The loophole is, of course, that R134a is not yet a 'controlled' substance. Until it is, we will see little cans of refrigerant gas in the hands of DIY experts, with little thought given to leakages into the atmosphere and the dumping of cans containing residue gas.

Oh yes . . . the sellers of DIY gas cannisters will accuse VASA of trying to kill the DIY market for selfish reasons. Even if this were valid, it doesn't alter the fact that the DIY market presents a backward step of about 10 years in the fight for environmental management of refrigerant gasses.

Mark Mitchell

VASA is proudly affiliated with: –



IMACA
International Mobile Air
Conditioning Association



Nostalgia . . .

At the 1999 **AIMACA** Convention and Trade Show in the USA, executive director **Frank Allison** presented a fascinating history of airconditioning in vehicles. It's too much for one issue, so here's episode 1 of **The History of Mobile Airconditioning**.

While the introduction of the automobile enabled us to go where we wanted, it was heating and airconditioning that provided the personal comfort to go when we wanted.

Airconditioning is a luxury which has become as commonplace as roll-up windows and balloon tyres. That is quite an accomplishment in such a comparatively short time.

We are all part of a comparatively young and exciting industry and we are fortunate to have the experience, perspective and counsel of those who were there when it all began.

In 1875 Europe gave the world the automobile and America returned the favor by heating it and airconditioning it and, like the automobile itself, this new level of personal comfort would be developed over time through the efforts of many individuals.

ICE BLOCKS & FANS

Air conditioning is not a new idea. In 1884 William Whiteley suggested placing blocks of ice in trays under horse-drawn carriages and blowing the cooled air inside by attaching a fan to the axle. In 1902, Willis H. Carrier designed the first scientific system to clean, circulate and control air temperature and humidity. This was fine for buildings, but impossible for automobiles at the time, due to their design.

We could always add another layer of clothing to stay warm, but keeping cool presented a real engineering challenge until the "closed car" became the popular standard. In the 1920's, airconditioning, which had begun in theatres, was rapidly spreading to department stores, office buildings and a few homes.

Many predicted that even the automobile would soon be airconditioned.

PROBLEMS FOR INVENTORS

However, developing an airconditioning system for automobiles presented inventors with significant problems not found in stationary applications.

* Cars move at various speeds with varying heatloads.

* Car bodies were thin, with a high ratio of glass and subject to solar heating.

* There was very limited space available for the



IMACA
International Mobile Air
Conditioning Association

* If a line broke due to vibration or an accident, the escaping refrigerant could injure or even prove fatal to the occupants.

The most commonly used refrigerants at the time were ammonia, methyl chloride and carbon dioxide. Ammonia and methyl chloride were flammable and highly toxic and while carbon dioxide was safe to handle, it was a relatively poor performer.



FRANK ALLISON

CFC-12 DISCOVERED

The safety issue and a few of the other problems associated with early refrigerants, were resolved in 1928, when Midgley and Henne discovered CFC-12.

The two scientists were working at the Frigidaire Division of General Motors. In just two days they had made their discovery. Through a joint venture between GM and DuPont, freon, or R-12, or CFC-12 was formally introduced to the world in 1931.

Armed with this new, safe refrigerant, research and development accelerated. In 1935, the first airconditioning system for a motorised vehicle, developed by Carrier Engineering and Houde Engineering, was introduced – installed in a bus.

Two years later, Kelvinator Division of Nash-Kelvinator installed its first mechanical airconditioning unit in a White research coach. Could the automobile be far behind? Throughout the 1930s, the car manufacturers had been conducting their own development work on A/C systems, but who would be first?

On 8 August 1939, Packard Motor Car Company made automotive history when it introduced "Weather Conditioning" as a US\$275 option on selected 1940 models. That represented 10-12% of the price of the car.

In 1941, Chrysler advertised airconditioning on all of their "closed cars," and Cadillac produced some 300 airconditioned cars between 1941 and 1942. But Packard was the first, even though fewer than 200 of their "Weather Conditioned" vehicles were actually built.

However, this new era of motoring comfort would be put on hold as America retooled to meet the demands of World War II and more than a decade would pass before OEMs would have any significant impact on the new, aftermarket A/C industry.

In the next issue, we begin with America retooling to meet the demands of World War II and the development of the aftermarket airconditioning industry.

New Members

**A big VASA
welcome to new
members since the
last issue**

Mr Ian Crosswell
Bruce Carswell & Co
102 Margaret Street
Launceston Tas 7520
Phone: 03 6331 2511

Mr Michael Grubb
Specialist Auto
Electrics Pty Ltd
287 Liverpool Street
Hobart Tas 7000
Phone: 03 6231 2541

Mr Jeffrey Kerley
Kerley's Garage
South Terrace
Port Broughton SA
5522
Phone: 08 8635 2522

Mr Stephen Lutton
SuperCool Tweed
Heads
10/14 Machinery Drive
South Tweed Heads
NSW 2486
Phone: 07 5523 1500

Mr Trevor Bland
T & K Re-Start
728 Burwood Highway
Ferntree Gull Vic 3156
Phone: 03 9758 3861

Career Opportunity in the Far North

**Based in Far North Queensland, FNQ Auto
Air is seeking the services of an experienced
Air Conditioning Technician to run its busy
work shop.**

**The person would be responsible for the
customer contact, trouble shooting and
daily running of the work shop, staff train-
ing and assist in the continuing growth of
the company. An excellent package will be
offered to the right person.**

**Please phone Duane on 07 4051 7842
or send resume to**

204 Brown Street Cairns Qld 4870

*Collectors of useless information will note that the
Volume and Issue numbers in the Masthead of Hot
Air have changed.*

*It has been brought to our attention by an ex-librari-
an that Volume means Year of publication and Issue
is the number of the issue in that year. Hence this
Hot Air is Volume 5 (the 5th year of publication)
Issue 1 (the first issue for this year). OK?*

The information in this newsletter is supplied by the
executive, members and affiliate bodies in USA and Europe.
VASA maintains a high standard of editorial and technical
content, but can accept no responsibility for the accuracy of
the statements made nor the technical information provided. If
in doubt about any issue, contact an appropriate committee
chairman or a member of the National Executive.

VASA READY REFERENCE DIRECTORY 1998/99

Directors, Chairmen (*in bold*) and Committee Members

Directors	Phone	Fax
Mark Mitchell (President)	07 5532 8133	07 5532 8602
Glen Watkinson (<i>Vice Pres</i>)	08 8347 1155	08 8268 8048
John Blanchard (<i>Secy/Treas</i>)	03 9890 7082	03 9890 0061
Tony Heat	02 9949 5188	02 9949 4243

CORPORATE AFFAIRS

Mark Mitchell	07 5532 8133	07 5532 8602
Chris Lindeman	02 9484 3949	02 9484 8608

TECHNICAL

Mark Padwick	02 9791 0999	02 9791 9029
Grantley Hand	018 266 132 08 8251 3894	08 8289 4260

TRAINING

Grantley Hand	08 8251 3894	08 8289 4260
Greg Thomas	02 9774 4133	02 9772 3272
John Bish	02 9482 1511	02 9477 7360

CONVENTION 1999

John Blanchard	03 9890 7082	03 9890 0061
Mark Mitchell	07 5532 8133	07 5532 8602

QUEENSLAND COMMITTEE

Bevan Carrick	07 3375 5566	07 3375 1404
Terry Gately – Insurance	018 722 947	07 3801 3096
David Pude – Training	07 3369 3133	07 3368 3745

NEW SOUTH WALES COMMITTEE

Tony Heat	02 9949 5188	02 9949 4243
Mark Padwick	02 9791 0999 018 266 132	02 9791 9029
Roger Boa	018 428 898	02 9792 7069
Steve King	02 4625 8216	02 4627 0374

NEW SOUTH WALES INSURANCE COMMITTEE

Peter Dodds	02 9720 2258	02 9720 2355
Phil Wilson	02 9601 2400	02 9601 6580
Chris Lindeman	02 9484 3949	02 9484 8608
John Wallace	0419 276 627	02 9634 7086

VICTORIA COMMITTEE

Mark Lynch	03 9532 0785	03 9532 1010
Brian Wilkinson	03 9544 7799	03 9544 7888
Keith Murray	03 9544 7799	03 9544 7888

SOUTH AUSTRALIA COMMITTEE

Glen Watkinson	08 8347 1155	08 8268 8048
Wayne Holtham	08 8234 2616	08 8234 2850
David Jackson	08 8376 0899	08 8376 0451
Allen Morris	08 8362 7671	08 8362 8337

WESTERN AUSTRALIA COMMITTEE

Kevin Matthews	08 9275 3344	08 9275 5630
Paul Robinson	08 9279 3336	08 9279 3156

NEW ZEALAND COMMITTEE

Barry Rogers	64 9 573 3392	64 9 573 3395
Richard Cooper	64 9 262 6524	64 9 262 0547
Stuart Helm	64 7 846 6668	64 7 846 6667
James Ritchie	64 9 520 2741	64 9 522 3318

EDITORIAL CONSULTANTS

Ken Newton	07 5526 3044	07 5526 3404
Joy Davies	07 5526 3044	07 5526 3404