



HOT AIR

NEWSLETTER

1st Issue 2002

of the Vehicle Airconditioning Specialists of Australasia May 2002

National Secretariat: VASA ABN 39 063 969 783 PO Box 2204 Southport Queensland 4215

FILE THIS ISSUE OF HOT AIR IN YOUR VASA FOLDER

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FORANE Refrigerants

by



Inside...

Convention Sponsors
Preview story ...p2

Speakers & Andrew Gaze
background..p3

Speaker line-up
...p4

More Speakers & RTP enters its 5th year...p5

CO₂ - is this the future for A/C...p6 & p7

More Speakers & Where is VASA represented
...p8

ARC tick - everyone is going to need one...9

Call for SIDS donations ...p9

Who's in the Trade Show in June ...p10

Sponsors page - new products ...p11

Directory...p12

Transferring Membership
...p12

2002
WIRE & GAS
TRAINING CONVENTION
JUNE 8-1
BRISBANE CONVENTION EXHIBITION CENTRE & RYDGES SOUTHBANK

It's never too late to register

Members who read this Hot Air and change their minds about coming to the greatest training convention and trade show ever, can **STILL REGISTER.**

Go to
www.wireandgas.com
and register on line
Phone 0755263044
and we'll send you a brochure.
...but do it NOW.



Olympian and all-round good guy Andrew Gaze is convention star

Australia's most decorated basketball player, five-time Olympian and flag bearer at the Sydney Olympics opening ceremony, basketballer Andrew Gaze, is the special guest at the Wire & Gas Convention.

He will deliver a keynote address at the Saturday morning session. All who have seen him say his appearance alone would justify the cost of the entire weekend. He is a funny, fascinating and motivated speaker.

...More Inside...

All the latest information on the Wire & Gas Training Convention can be found at

www.wireandgas.com

For all information, email info@wireandgas.com



Deyan Barrie
President AAAE



Mark Mitchell
President VASA

**“Sponsors
deserve big
vote of thanks”**

The Trade Show for 2002 Wire & Gas Training Convention is a sell out.

There will be at least 31 booths and six tables, with a host of new products and services for the air conditioning technician as well as the auto electrical / electronics technician.

The convention partnership of VASA and AAAE (Australian Association of Automotive Electricians) has been a winner.

The Convention Committee, headed by VASA's Mark Mitchell and AAAE's Deyan Barrie are delighted with the reaction of the exhibitors and hopefully, the delegates.

At going to press with Hot Air, delegate registrations were rolling in, with still five weeks to go.

“It's feeling right”, is the committee's view.

The all inclusive low registration, possible because of generous sponsors and exhibitors, plus a no frills approach to entertainment has hit the spot with delegates.

The accent on training and product information, rather than sales spiel, has also hit the mark.



MAJOR SPONSORS



MEDIUM SPONSORS



MINOR SPONSORS



EVENT SPONSORS



For the first time at a convention, real cars will be in the classroom. The Wire & Gas speaker program will bring technicians up to speed with systems and procedures with late model cars and forecast some technologies of the future.

On the podium level of the Brisbane Exhibition Centre, the latest model popular vehicles will be there for hands-on training during technical sessions on both of the main afternoons.

The Service Forum on Sunday morning is the opportunity for open discussion on everyday problems in the industry at the workshop level. In past years, this Forum alone has been considered the most worthwhile event at convention.

The leaders of AAAE and VASA have praised the resurgence of interest in the annual Trade Show and the readiness of industry sponsors to come forward.

"If it were not for sponsors you just couldn't run a convention for a delegate fee of \$295 plus GST for members," they said.

The Trade Show will be unique, because it will be the first time that a cross section of product from both air conditioning and auto electrical will have been seen together.

AWESOME SPEAKER PANEL

The speaker line-up, which has taken a solid six months to put together, is a mind-blower. Answers will be found for many technical questions.

Starting with some top keynote speakers, including Sanden's Conrad Norris from Germany, (inset photo) this convention is delivering the best technology brains in Australia.

Some of the faces are familiar, like Grant Hand, Dave Townley and others, but between them you have the country's technical braintrust in automotive.

Andrew Gaze is one of Australia's most inspiring sporting heroes

He has played in a record five Olympic Games, he is the highest point scorer in Olympic history, he has played in four world championships and is the second highest point scorer in world championship history. Andrew has been named as the NBL's most valuable player an astonishing seven times and has scored more points in the NBL than any other player. He has been selected as a member of the All-NBL All-Star Team for a record 12 consecutive years.



Andrew has also had two stints in the American NBA. He was a member of an NBA Championship winning team with the San Antonio Spurs, he attended college at Seton Hall where he led the team to the NCAA final, and he has played professionally in Greece and Italy.

In 1984 he made his Olympic debut in Los Angeles. The LA Games led to Seoul, Barcelona, Atlanta, and finally, Sydney. During that period, Andrew played more than 280 matches for Australia.

At the Sydney Olympics, Andrew was rewarded for his contribution to basketball

and the Olympics by being named as the Australian flag bearer for the opening ceremony. He has also been named the International Player of the Year five times.

Andrew has since retired from international basketball but continues to lead the Melbourne Tigers as the dominant force in the NBL.

He is the patron of Ronald McDonald House and the Kids' Help Line. He has also contributed his time and energy to Challenge Cancer, the Australian Kidney Foundation, and a variety of children's causes. In June 2001, he became the National's Community Ambassador whereby he supports and adds value to the National's community programs. He is in high demand as a corporate speaker. Andrew will speak on Day One of the Convention in Brisbane.



CONRAD NORRIS
Senior Design Engineer, Sanden International, based in Germany. Graduated from Leeds University,

Yorkshire 1971 with a degree in mechanical engineering. Spent the next 17 years with British Leyland and Ford Venezuela. In 1988 he joined Sanden Europe and became chief engineer for Europe in 1994. He was part of the team that set up Sanden Manufacturing Europe SA in France and Sanden Technical Centre (Europe) GmbH in Germany.

He has been resident at the technical centre as chief engineer since the summer of 2000.

His subject will be compressor developments in Europe - Past, Present and Future.



ROBERT BURNS
Denso International Australia

Robert Burns is a graduate from RMIT in Mechanical Engineering.

He has had 16 years experience with Denso mainly in Car air conditioning products.

His current role is aftermarket support for OEMs for all Denso products.

Training concept is to briefly describe troubleshooting procedures in respect to automatic climate control portion of the air conditioning system. Planned activity is to demonstrate self diagnosis check procedure and perform actuator checks of the vehicle using A/C controls.



DAVID TOWNLEY

David Townley has worked in BMW, Peugeot, Renault, Nissan, Honda and Mercedes dealerships in various positions including leading hand, service adviser, foreman, service manager and spare parts manager.

David is National Field Services and Training Supervisor, Holden/Isuzu.



GRANT HAND

Advanced Skills Lecturer, Douglas Mawson Institute of Technology,

Adelaide and VASA training coordinator.

Grant is the technical brains behind all of VASA's training programs and workshops and by virtue of his position with DMI, is recognised as among the best of Australia's automotive trainers.

Grant developed the Registered Technicians Program for VASA, and for the past few years has been working on the development of learning materials for work-based training, knowing it would be an essential element for all professional technicians and service / repair businesses in the future.



KELVIN DOCKING

Kelvin is an advanced skills lecturer and Industry Consultant for Douglas Mawson Institute of Technology. He is a qualified Automotive Electrician with 25 years at the forefront of the industry with a focus on keeping abreast of the latest technologies.

In addition to his "trade" training and consultancy roles, he has also focussed on Workplace Assessor Qualifications training for industry in line with the new training agenda of on site assessment and competency validation.

His International work involves extensive consulting and training in Automotive and Workplace Training in Malaysia. In addition to this he has also been involved in competency profiling, writing of competency standards and auditing of educational standards

ALAN WOODHOUSE



After a long association with the vehicle air conditioning industry, Alan has been

appointed CEO of NRAC (National Refrigeration and Air Conditioning Council), the national body which is spearheading the improvement in training and work practices of Australia's refrigeration technicians.

The goal is to minimise greenhouse gas emissions through the improved handling of refrigerant gases.

It's not too late to register. Do it on line at www.wireandgas.com

RTP enters its 5th year - and it's not getting any easier!

There's bad news and good news about the RTP, the popular Registered Technicians Program which is about to enter its fifth year.

The RTP is a series of technical bulletins and questionnaires which are a compulsory component of VASA membership. Every service centre member, wholesaler and manufacturer receives the RTP.

The program, compiled by VASA technical coordinator Grant Hand, is designed to provide members with up to date technical information as it unfolds in the new model vehicles.

Now for the good news.

For those who complain they don't have enough time to read or send back their questionnaires, the number of Bulletins in this coming year will be reduced from six to approximately one per quarter.

Now for the bad news.

The information in the Bulletins is going to get more complex.

As Grant says, "Too many workshop people are still expecting simple answers and simple, quick solutions to problems. Sorry...it doesn't work like that any more. It's a bit like buying an expensive software package for your computer and then complaining because it looks too complicated. It means you will never get maximum value out of the package."

"The bottom line is that systems

are complex and getting more and more complex as each model comes out.

"So for that reason, the Bulletins are being spaced out to four in the year, carefully avoiding your busy time in mid summer," said Grant.



Grant Hand

BULLETIN TIMETABLE

Members can expect the Bulletins to hit their desk at the end of May, August, November and February.

These Bulletins will address the OEM systems and higher level diagnostics, including, for the first time, transport refrigeration.

This is in response to the number of member workshops which are moving into that area as part of their diversification of business.

THE COMPLETE TECHNICIAN

Grant said the Bulletins would focus on refrigeration and electrical/electronics, as part of the whole system.

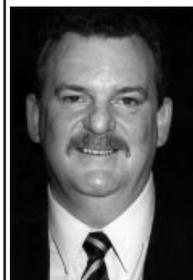
"We are trying to address the 'complete technician' because that's where we believe the industry is heading.

"Technicians are going to have to address problems related to the integrated systems in cars and trucks. The days when individual tasks, such as the electricals, are subbed out to specialist sub-contracting workshops will soon disappear as more and more of the workshop expertise becomes focused on systems."



Speaker line up (continued)

MICHAEL BENNETT



Mike is general manager of Refrigerant Reclaim Australia.

He updates members regularly on the need for recovery of refrigerant gas from vehicles and reports on monitoring of the ozone layer by environmental scientists, to show the difference that responsible gas management can make.

Mike will talk about the strengthening relationship between RRA and VASA and discuss forthcoming government controls on HFCs and their ultimate recovery.

DON ANDERSON



General Manager Automotive Computers Australia based in Sydney.

He will give trade tips and talk about the traps on electronic fuel injection systems and products.

More on later pages...

A warning has been issued from the MACS Convention in the US that the world might be headed for a multi-refrigerant era in vehicles as a result of the push by European manufacturers towards the introduction of a/c systems using CO₂.

GM chief Jim Baker said viability studies in the US revealed it would be cost effective to change over to CO₂ despite the enormous investment required to make the change.

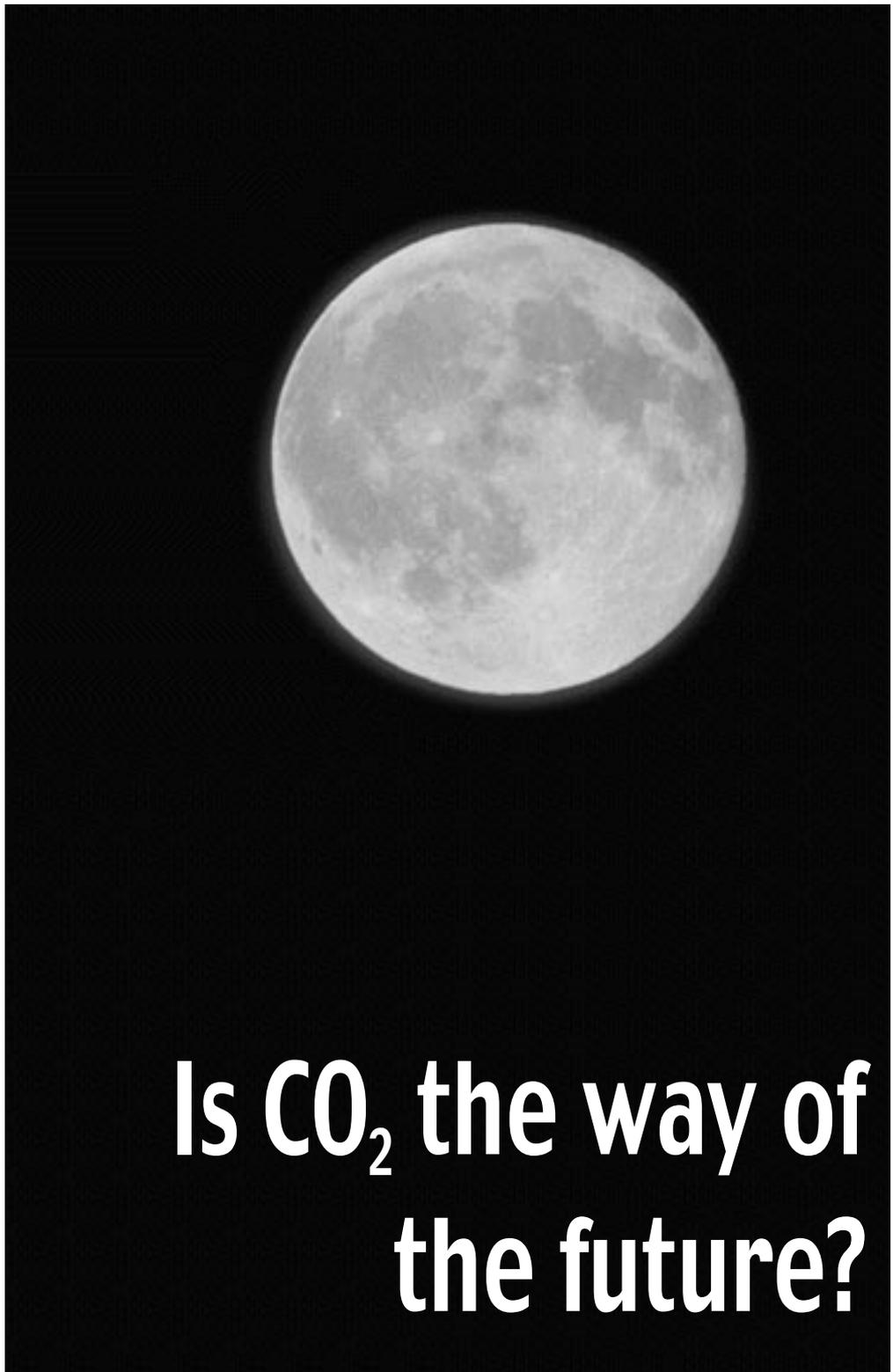
He believed the change might be an exclusive step for some European vehicle manufactures for the time being and if that were the case, the vehicle a/c industry would be heading for a multi-refrigerant era. One European OEM has forecast that the first mass produced vehicles containing CO₂ systems might hit the market by 2005.

VASA leaders are following the debate with interest because of the obvious impact such decisions will make on every service centre.

VASA president Mark Mitchell comments "From what we know, commercially speaking, many manufacturers have considered it might not be a viable move, considering that it's only a few years since the industry went through the R134a retrofit and it will be some time before many manufacturers recoup their tooling costs for this changeover.

Australia has great environmental model

"It would be a shame if Australia were forced into a changeover situation because of our successful reduction of emissions.



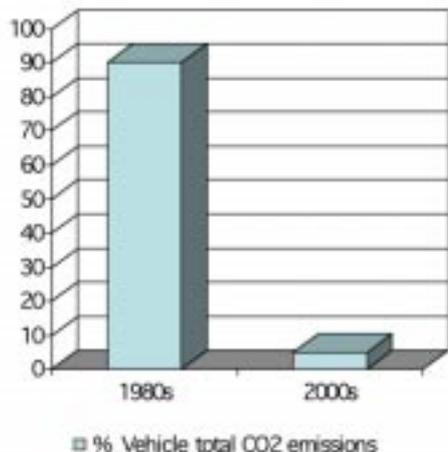
Is CO₂ the way of the future?

Australia has really produced a fantastic environmental model for the rest of the world, with RRA taking back the gas for proper destruction and NRAC now lifting the stewardship standards throughout Australia on a national level.

"The figures need to be looked at very closely. We are getting a little tired of the knee jerk reactions of the car manufacturing industry," added Mark.

The impact on the aftermarket industry of this move could be huge. Another MACS speaker from Europe warned that servicing CO₂ units would require advanced diagnostic tools, critical unit components would need to be installed and only qualified personnel could work on them. There are also safety aspects involved because of the CO₂ system's reliance on enormously high pressures during system operation.

Automotive case study



- Automotive study*
 - 28 vehicles from 5 manufacturers
 - New to 225k kilometres
 - SHED
 - 0.08g/day from vehicle
 - 0.31g/day from servicing and disposal
 - Allowance made for improvements in fuel consumption
- GWP
 - R12 - 10,600
 - R134a - 1,300

* Siegl, Wallington, Guenther, Henney, Pawlak, Duffy, 2001

In the 1980s approximately 90% of the greenhouse gas emissions from vehicles came from the refrigerant in the AC system – either through leaks, during service or at disposal.

This level of emission includes the manufacture of the vehicle and all the fuel it burns.

The move to using R134a instead of R12 has brought about a massive reduction in greenhouse gas emissions. Now, in the 2000s the refrigerant in the AC system contributes only 5% to the total greenhouse gas emissions from a motor vehicle.

With further improvement to work practises and the recovery of R134a this level of contribution will reduce even further.

Graph and explanation thanks to RRA

...from the previous page

The issue is likely to be high on the agenda at the Wire & Gas Convention in Brisbane in June.

At the head of the CO₂ push is Visteon, who supply the 19 largest vehicle manufacturers with engineering expertise and systems.

The CO₂ system to which Visteon seems committed is a heating and air conditioning system that uses carbon dioxide (CO₂) as the working fluid. The CO₂ system is a closed looped process, making it more environmentally friendly than today's refrigerant.

According to Visteon, features of its system are:

Delivers higher system efficiencies and performance over today's refrigerant systems

Can be operated as a heat pump
CO₂ is a closed looped process refrigerant system with higher pressure environment

Requires modified hardware including internal heat exchanger

The benefits they list are:

CO₂ is a heat pump fluid with capabilities to provide instant and supplemental heat to passengers
More environmentally friendly than today's refrigerant systems

CO₂ system has smart controls, allowing it to operate in maximum efficiency and capacity therefore improving fuel economy

The CO₂ system improves fuel economy by consuming less power to achieve the same level of passenger comfort as R134a sys-



"I don't care how many meteorites hit the earth
 ...I still say it was global warming."

tems.

Because CO₂ is more easily contained than R134a, especially in the later stages of vehicle life, the CO₂ system provides a more tightly closed loop, reducing emissions of greenhouse gases.

CO₂ systems do not require complex recovery and recycling procedures, simplifying climate systems service for dealers and automotive manufacturers.

The above information was gained from the Visteon website and does not represent any endorsement by VASA. VASA believes there are other issues to be understood including management of high pressure systems, which are not addressed in the Visteon website material.

As with the implementation of all R12 replacements during the early 1990s, safety of technicians was one of VASA's main concerns together with the costs to workshop operators of changing to new refrigerants.

If workshops are now to be faced with replacements for R134a (even though this is OEM driven), cost and safety is something which will be paramount in VASA's scrutiny and it is something the organisation will be watching very closely.

For more information, go to
www.visteon.com

Represented in all the right places



Speaker line up

MARK MITCHELL

Mark Mitchell Managing Director
SCA Australia

After distributing Unicla air conditioning systems and components in Queensland for 20 years, Mark sold his retail outlets as franchises and now concentrates on his role as Australasian distributor of Unicla compressors and parts.

Mark will give a presentation on the new F Series (R404a) compressors, recently released by Unicla worldwide.

JOCK HARRIS

Product Manager Ashdown,
based in Brisbane.

For the first time at any trade show, Jock will explain the new HID Gas Discharge Lamp wear which draws less current and less power together with LED Lighting

Systems

JOHN OUGHTON

Branch Manager of AudioXtra
International.

Car sound, communications and security training, including UHV and CB installation

STEVE DOUGLAS

Phillips globes - a presentation on behalf of Ingram Group.
More speakers were being negotiated as this issue went to press.

SIEMENS VDO Car

The awesome technology of Siemens VDO Automotive Queensland demonstration Commodore with two navigation systems, speed alert, ten loudspeakers, Television, Teletext, two amplifiers, in-dash CD changer and rear screen for Video and games. It will be on show on Saturday.



LINDEMAN



MITCHELL



WOODHOUSE

A good sign of VASA's maturity and credibility is the representation the organisation has on some serious government and industry boards.

While this kind of work has been going on for years, it's always done behind the scenes, with plenty of meetings and hefty reports to consume and few rounds of applause.

It is of great credit to those volunteers who give up their time away from their own businesses to represent VASA members and share their expertise in vehicle air conditioning with regulatory bodies.

Chris Lindeman, a long term member of VASA, renowned for his technical knowledge, is a member of the Technical Committee of Standards Australia, the team which makes the recommendations to government on the setting of standards, in this case, in the areas of refrigeration and air conditioning.

He is also on the board of AFC (Australian Fluorocarbon Council) and is an air conditioning specialist on the New South Wales committee of the Institute of Automotive Mechanical Engineers.

VASA president **Mark Mitchell** holds down two prestigious board

positions, one of which will be vital to VASA members in the not too distant future.

This is NRAC, the National Refrigeration & Air Conditioning Council which has been formed to refine and update the skills of refrigeration and air conditioning technicians to uniform standards across Australia.

Mark is also on the board of Refrigerant Reclaim Australia, the industry body established to recover, reclaim and destroy ozone depleting chemicals.

Alan Woodhouse, a long time supporter of VASA in his former role as head of Actrol Parts, is a VASA individual member.

He is the first CEO of the National Refrigeration & Air Conditioning Council.

However, he was nominated by VASA to represent automotive specialists on the newly formed Victorian Ozone Board, a position which has just been confirmed.



Queensland demonstration Commodore with two navigation systems, speed alert, ten loudspeakers, Television, Teletext, two amplifiers, in-dash CD changer and rear screen for Video and games. It will be on show on Saturday.

By the end of this year, the first licences called the ARC *tick* are expected to be issued to Australian air conditioning and refrigeration technicians as part of the new national push for a higher standard of uniform work practices and improved energy efficiency.

The ultimate goal is to minimise greenhouse gas emissions through the improved handling of refrigerant gases and work practices.

It will involve everyone in the vehicle air conditioning industry and indeed any worker whose job entails connecting up a gas bottle containing synthetic greenhouse gasses.

The scheme, which received an initial financial boost from the Australian Greenhouse Office, is being administered by a new organisation called NRAC (National Refrigeration and Air Conditioning Council).



VASA President Mark Mitchell has been appointed to the NRAC board.

He explained that while the licensing will initially be voluntary, it will ultimately follow the world trend where HFCs will come under government control. The Government will be looking to NRAC to undertake the licensing of all technicians and businesses handling HFCs and all other fluorocarbons.

"Those who get in early will benefit from the national marketing and advertising program which aims to ensure that employers

Call for donations of auction items for SIDS

and customers are looking for technicians who are ARC *tick* certified," Mark says.

This logo will become highly recognisable by consumers and will mean that the technician is not only specially trained and competent but environmentally aware.

Initially, workshops might be able to get away with not achieving ARC *tick* certification, but as NRAC bluntly says "why would you want to identify with the bot-

tom end of the industry".

Those technicians whose skills are up to scratch will not need to change the way they work.

Further training will be required for the others. Professional development, which will be part of the NRAC initiatives, may involve short courses, journals, assistance with private study, technician training evenings and conferences.

If you really can't get to the June Convention and Trade Show - just come to the Trade Show - it's free on Saturday and Sunday afternoons.
(made you read it!)

VASA members who attend the annual dinner at convention each year have handed over almost \$100,000 to children's charities around Australia and New Zealand.

The fund raising is done through a charity auction at each dinner.

This year's Wire & Gas Training Convention in Brisbane has adopted SIDS (Sudden Infant Death Syndrome).

This year will be a "silent auction" with donated goods and services laid out on tables.

Dinner guests can place their bid at any time during the night. When the auction closes, the last name on each bid sheet is the winner.

SIDS provides assistance for families who have lost a loved one through SIDS. They also provide sleep monitors and operate a 24 hour crisis line.

The goods for the auction are all traditionally donated and this is where we need your help.

Auto electrical and air conditioning products can be donated, or anything (within reason) to use as an auction item, a holiday, television, anything at all to help fund this worthy cause. (NO JUNK PLEASE)

Queensland Representative on the VASA ALLSTATES committee, Gaynor Ruf has thrown herself into this project by participating in a car rally in May which is aimed at raising awareness and increase funding for SIDS Queensland.

Gaynor runs Air Supply at Slacks Creek in Brisbane and she will manage the donated items and get them to the dinner.

So send all auction items to Gaynor Ruf at Air Supply, 10 Monte Street, Slacks Creek, Queensland 4127. For further enquiries, please contact Gaynor on 07 3290 3300.

SANDEN INTERNATIONAL

Automotive air conditioning compressors. Latest technology in heat exchangers. Senior Design Engineer Conrad Norris will be on hand to answer questions on compressor failure.

INGRAM GROUP

In auto electrical there's VDO products, Phillips lighting, Redarc voltage reducers, Bosch and Hella. In A/C, Delphi variable displacement compressors, Denso and Visteon products.

JAYAIR

A ground breaking range of new products.

ASHDOWN

For the first time at any trade show the new HID Gas Discharge Lampwear which draws less current and less power together with LED Lighting Systems. Sparky the computer catalogue database. BOC Gases

CENTURY YUASA

Manufacturer and distributor of automotive lead acid batteries. Leading brand names, Century, Yuasa, Besco and G Force. Extended warranty, maintenance free Heatguard product is particularly popular with the motoring public.

COOLTEMP

The Cooltemp F2 race car. Evaporator plate fin tooling, condenser fan injection mould die tooling and P/E condenser tooling.

ADAIR

Range of imported air conditioning condensers and receiver driers. Adair specialises in direct fit condensers in parallel flow, serpentine and tube and fin configuration

UNICLA

Latest range, including the new

F series (404a refrigerant). New AU Falcon compressor TC170 and selection of compressors from the A Group passenger cars and the B Group 200cc and 310cc.

YELLOWJACKET AND YOKOGAWA

Updated Yokogawa models of the GA500 Plus analysers and H10PM leak detector. New Informant compubstable gas leak detector from Yokogawa/Bacharach. Yellow Jacket equipment including the new Brute and Bantam charge manifolds and gauges, electronic scales, charging stations and vacuum pumps.

AUDIOXTRA

INTERNATIONAL PTY LTD
Latest car security and communication systems.

AUTO ELECTRICS AUSTRALIA

Range of heavy duty starters and alternators. High output alternators for air conditioning applications. Fan motors and brushes

AUTOFIND.COM

An Internet marketing company specialising in quality and ethical goods and services for in automotive. Intended as a one stop shop for all things automotive.

CALSONIC AUSTRALIA

First Australian manufacturer of the high performance parallel flow condenser will present their growing range of products.

CUSTOMAIR

New hoses and fittings concepts, with quick clips, compatible with R134a or R404a. Condenser and evaporator units for all heavy duty applications, plus a range of blowers and fans.

DURST INDUSTRIES PTY LTD

Manufacturers and designers of automotive diagnostic testing and charging equipment since 1918.

Comprehensive selection of battery chargers and testers, dedicated multimetres and accessories, auto electrical test benches and oscilloscopes.

LOVELOCKS

Full range of compressors, condensers, driers. The BlackJack crimper, Danfoss range of products, plus refrigerants and tools.

MARK IV

Remanufactured compressors and ancillary items, plus a range of new compressors.

NIPPON AIR PARTS

Australia's largest compressor remanufacturer will display compressors to suit all vehicle types and well as their new range of air conditioning oil.

AIR SUPPLY

A range of products and systems for the 2002-2003 season.

CPS AUSTRALIA

The AR300 and AR500 auto recovery/recycle units plus the LS 3000 (The Eliminator) and the Black Max manifold. Gauges, tools and mobile charging station.

WORLD AIR AUSTRALIA

Specialists in Merc and BMW and quality European cars, will be showing Valeo, Bosch and Behr new equipment, as well as many others.

THE REFRIGERANT OIL COMPANY

The Rocoil range of compressor lubricants

BDA AUTO ELECTRICAL

Starter drive repair kit and components. Solenoid repair kit and components. Replacement Rotor shafts and impellers to suit diesel alternators.

AUTO AIR PRODUCTS

Imported system sealants, aerosol flush, ultra violet leak light - all top new products from Canada. Also Braze Perfect aluminium solder.

Products and Technologies for the vehicle air conditioning industry Provided by Sponsors to Hot Air



Printing information about these products is a service to members and paid for by sponsors and should not be construed as any endorsement of products by VASA. For submissions and sponsorship details, contact the Editor, Hot Air info@vasa.org.au Phone 0755263044 or Fax 0755263404

Unicla UPF150 404a Compressor



This is the only 10 cylinder swashplate compressor of this type and capacity specifically designed for refrigerant R404a. It's based on the traditional Unicla UP design and is re-engineered to cope with the higher thermal and pressure loads delivered by R404a.

The UPF150 is suited to all mounting brackets made for compressors with 83mm lug spacing. It's fitted with POE (Ester Oil) and the oil return port as standard.

A diverse range of clutches are available in AA, B section and Polygroove. Also 12 and 24 volt with metal dust covers. A multiple choice of o'ring or flare ports are available in vertical or horizontal configuration including cast iron type ports as required in heavy duty applications.

Product Enquiries:
SCA Australia Pty Ltd
Parts Sales: 07 5571 1936
Email: sca@sca.com.au
www.sca-australia.com.au



Brute Charging Station



*Heavy duty and durable, yet light-weight and manoeuvrable.

*Great centre of gravity for improved stability.

*Heavy duty metal scales rated to 50kg

*Scales accurate to ± 0.015 kg
Keypad is easily operated, liquid resistant and easy to read

*Contains port for programmable charging module (optional)

*Manifold has larger 3/8 bore for increased flow to save charging, vacuum and recovery time

*Sight glass on both vacuum pump and manifold to inspect refrigerant during charging and recovery

*All valves fitted with in line mesh filters

*2 stage / 1.5cfm vacuum pump with anti suckback in case of power failure, larger oil capacity for increased moisture absorption and gas ballast to help speed evacuation and keep oil clean.

*Double barrier hoses available in many lengths

*Large easy to read gauges with rubber boots for increased protection

*Rugged pneumatic tyres



For your nearest distributor
Phone 1800 628 133

Being in a network of professionals adds great power to your promotional message

As a member of VASA, you have access to a range of promotional opportunities which can help you market your business to a much wider audience than you perhaps now service.

Members often ask "What is VASA doing to promote my business" - we could respond by asking "well....are you using the facilities we already provide?"

Let's run through them:

Pages like this one in Hot Air, where members can display their new products to their fellow members and others who read Hot Air. Go to the website, click on **SPONSORS** and see how little it costs.

More and more visitors are hitting the **VASA website**. Many are looking for the closest VASA service centre near them to get repairs done.

Why don't you improve your position on the Member's list by incorporating your logo - it costs you an extra \$15 a whole year, added to your annual sub. At the same time, we increase the size of your entry, so you stand out in the crowd.

Are you using VASA signage effectively. Go to the Members Lounge on the website, click on **VASA LOGO FOR PROMOTIONAL PURPOSES** and see what you can do.

VASA READY REFERENCE DIRECTORY 2001-2002

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VASA MEMBERSHIP IS NOT TRANSFERRABLE

When a VASA business is sold, membership is not necessarily automatically transferred to the new owners.

If membership were transferable, it would open the way for untrained workshops to capitalise on the good VASA name, and this would be working against the whole notion of promoting VASA as a network of professional repairers and installers in the vehicle air conditioning industry.

It is a policy of VASA that where businesses are sold, that the business relinquishes the right to VASA membership and use of its logo until it is determined that the new owners comply with the required equipment list and technical diagnostic expertise.

The onus is on members of VASA to inform the association if they have sold the business.

