



# HOT AIR

NEW TECHNICAL START 2007

the aftermarket air-conditioning and auto electrical specialists of choice

National Secretariat PO Box 1180 Paradise Point Qld 4216 ACN 083989782

## VASA heads off in new directions ...auto-elecs welcome



The most far-ranging changes in VASA operations since its formation in 1993, will see a new management regime, more directors, new publications and wider membership reach.

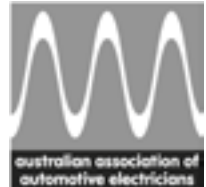
Many of the changes are in response to the changing nature of the vehicle air-conditioning industry due to more advanced vehicle technology, more reliable systems and an urgent need to ensure that technicians' skills keep up with the pace.

At the VASA Annual General Meeting held in Adelaide on 11 August 2007, members even went as far as pushing for a change in VASA's name in the next few years to better reflect the representation it offers to after-market technicians.



Mark Padwick, VASA President, forecasts big changes in operations.

### The spirit lives on



At a meeting in Sydney on Friday 17 August, members of the Australian Association of Automotive Electricians voted to voluntarily wind up the company, and transfer its operations to a re-shaped VASA.

AAAE was formed roughly around the same time VASA was formed in the early 90s.

Run by volunteers throughout, AAAE was established as a cooperative network where auto electricians could share knowledge, create a strong customer base through promotion of ethical repair codes, and encourage training and better work practices.

Former President Deyan Barrie says little will change in the day to day lives of the auto electrical members.

"We want to retain our logo and our sense of community. By combining operations into one company, we achieve economies of scale, and I firmly believe that VASA, Incorporating AAAE will be bigger and in a better position to provide benefits for all members, whether they are auto electricians or air conditioning specialists.

#### INSIDE THIS ISSUE:

- New directors
- New focus
- New technical service
- New approach to licence assessments
- New ways of communicating
- Annual report ...and looking after our industry's future



AAAE was held together by the untiring work of Jeff Smit (left), secretary and Deyan Barrie, President. Both are also staunch VASA members and will serve on the expanded VASA Board of Directors.

# THEY GOT LIFE...

#1 - Tony Heat

#2 - Ralph Cadman

#3 - Glen Watkinson



VASA has awarded its third Life Membership Award to South Australian Glen Watkinson, a foundation Director of VASA, and a pioneer of the vehicle air conditioning industry in that state.

The awards were introduced when Director Tony Heat (Sydney), retired from the industry, and the second recipient was respected pioneer and Director Ralph Cadman (Sydney).

The third award to Glen Watkinson was issued at the 2007 Annual General Meeting dinner in Adelaide in August, in front of 65 industry guests.

VASA President Mark Padwick (right) made the presentation, and the South Australian members bestowed their own special award on Glen for his contribution to the industry in South Australia. This award was made by Rob Cox (left) and Steve Riley, both workshop operators in Adelaide.



## The main organisational changes to VASA - AAAE

VASA will add "Incorporating the Australian Association of Automotive Electricians" to its name, reflecting the transfer of AAAE operations to one organisation. 🌿

The objectives of the association will be widened to include auto electricians as well as air conditioning specialists. 🌿

All existing financial members of AAAE will be automatically offered transferred membership to VASA, Incorporating AAAE. 🌿

Members at the AGM in Adelaide sent a strong message to the new Board - to change the VASA name within the next couple of years to better reflect its representation of a variety of aftermarket specialists. 🌿

The Board of Directors has increased from five to seven members. Two seats will be reserved for auto electricians, and the first two to fill those seats will be Deyan Barrie and Jeff Smit, President and Secretary of the AAAE. 🌿

From 1 October 2007, the day to day administration, invoicing, accounting and general membership functions will be transferred to AIRAH (Australian Institute of Refrigeration air Conditioning and Heating) from the current secretariat at Southport, Queensland. This will streamline the operations of both VASA and AAAE membership, freeing up the CEO, Ken Newton to allow for better membership services and wider representative activity for VASA. 🌿

The Hot Air news bulletin will be re-issued every two months, and will eventually be included for members only in a new planned publication 'The Automotive Technician'. 🌿

'The Automotive Technician' is a commercial entity with allegiance to VASA and AAAE, which will spearhead a whole new technical support regime for members and the wider automotive technical world, through problem solving, training and a huge web-based database of technical solutions. 🌿

The Automotove Technician will also provide VASA and AAAE members with their first direct technical help line, adding to the Technical Problem Solver already in operation for VASA members. 🌿

The first new publication is due out before the end of the year, and the technical help line will be announced during September and promoted on the new look VASA - AAAE website. 🌿

### An explanation on the Journal

For the past two years, with the full cooperation of Tony McMahon, publisher of the Automotive Electrical and Air Conditioning News, the editorial pages have been made available to VASA and AAAE and this publication became the official Journal of both groups.

With a new publication on the horizon, this agreement has been finalised. Members wishing to continue their subscriptions with AEANews should arrange that through the publication. A subscription to AEANews is not connected to membership of either VASA or AAAE.

# *South Australian training workshop and mini trade show boosts AGM numbers and attracts welcome attention to the 2006-2007 Annual Report*



South Australian director Dave Jackson (right), introduces CPS Australia trainer Nigel Muggridge at the VASA workshop.

**Adelaide 11 August 2007** - "VASA recognises that the biggest single challenge facing the automotive aftermarket industry today can be explained in two simple words, "KEEPING UP".

"Those of you in this room, who are obviously surviving, are the lucky ones. Over the past three or four years, VASA has lost more members than ever before, not because they were disillusioned with VASA but because they simply gave up - closed their doors and went fishing, or turned to another, less demanding trade. Many of them, however, chose to stick with what they knew best - air-conditioning - and found they could not survive on one activity, no matter how specialised it might be.

"Just as our forefathers had to learn to cope with the industrial revolution, we are learning to cope with a technology revolution. There are going to be a lot of casualties, especially among those who believe that their old traditional skills will get them by. Sorry, they won't.

"Like many industries, the vehicle aftermarket demands technicians who are skilled in a broad area of vehicle repair, and that means technicians who are prepared to take an interest in their trade associations, attend conventions and workshops, and generally extend themselves to add to their knowledge.

"This implies that you, the technician, have to do some extra work. There is no easy way to download information on modern vehicle repair into your brain via a USB cable.

"The best your trade association can do, is to create a framework for knowledge sharing, provide technical know-how through conventions and trade shows and on the website or through publications, and gener-

ally act as an early warning system about technology changes.

## **DOES AN A/C SPECIALIST STILL EXIST?**

"It's not all bad news. VASA is surviving, and will survive, because many new people are coming into the industry, with technology and even computer skills that the older generation did not have or even need. It is obvious that VASA sooner rather than later, will need to open its doors to other technicians working in automo-



Bosch trainers from Melbourne featured large on the VASA agenda in Adelaide. Here, VASA President Mark Padwick (left) chats with Business Development Manager for Test Equipment with Bosch, Darryll Cavanagh, with VASA Treasurer John Blanchard at right.

tive. An obvious new area would be those dealing in radiator repairs.

"It is very likely that VASA will need to change its name in a few years, because despite our own parochial views about the importance of the climate control system to the modern vehicle, air-conditioning as a system is now almost totally integrated into the vehicle's technology. In VASA's earlier days, air-conditioning was considered an accessory.

"It follows that soon, there will be no such thing as an air conditioning specialist as a stand-alone business.

"VASA knew this was coming a long time ago, and those of you with good memories will recall how often we tried to get our members to diversify, to safeguard their incomes. We told them 'Don't rely on air-condition-

ing installation and repair to get you through.' Most took our advice. Many didn't. They are the workshops which are closing, or being absorbed into mechanical or auto electrical businesses.

## **VASA TO TAKE A GUIDING ROLE IN THE TRAINING AGENDA**

"The VASA board has also changed direction on its training delivery, which we admit has been spasmodic over the past two years. Ever since the old RTP program came to its seven-year end, we have been floundering trying to get enough technical information out to members.

"We have been fortunate to be able to bring the MACS Worldwide Technical bulletins to members every month, and while not always perfect for Australian conditions, about 50% if the informa-

tion in these bulletins is very relevant to Australian and New Zealand workshops.

"In future, VASA will throw all of its resources into the bi-ennial Wire & Gas Convention, as being the event to bring all members and others up to date with world vehicle technologies.

"We will also begin a program of working with the TAFE colleges and other registered training organisations to try to improve the standard of training for all new people coming into the industry.

"The gap in technical information and direct training will be partly taken up by the new entity The Automotive Technician, as well as wholesaler members and other providers who VASA will support." **Annual Report excerpts - Mark Padwick, President.**

# ...SO WHAT'S IN A NAME

**How does the motoring public decide which workshop to visit when their car breaks down?**

Unless a workshop has already built up a local following, it can be baffling for a motorist to decide which workshop to drive to when a red warning light suddenly flashes on the dash panel.

We turned to the VASA members to see if there was any consistency to workshop names. The result might surprise you.

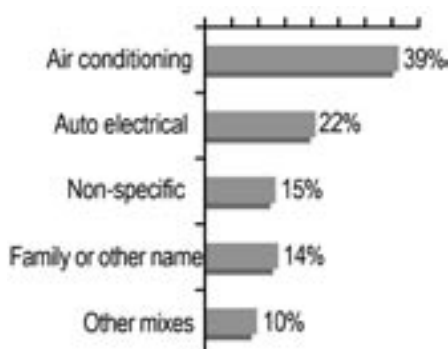
The trading names used by VASA members vary from the bleeding obvious (includes air conditioning repair or at least the word COOL in the title) to the totally obscure (Bill Smith and Co).

Breaking down the total membership, we discovered that only 39% of members used their business name to advertise they do A/C work.

Another 22% advertised that they were only auto electricians. Then 15% of members took no chances and use generic auto names such as Fred's Auto Repairs, or Bob's Garage.

Another 14% opted for family or other corporate names which bore no relation to the work carried on in the business.

Finally, 10% of members were a mixed bag of activities, such as Radiator and Air, or Brakes and Electrics.



# Business increase flows from APPROVED REPAIRER status in SA

South Australian members of VASA are overjoyed with the success of their relationship with the Royal Automobile Association of SA, in which workshops are listed as approved repairers in the category of automotive air conditioning.

It took years of negotiations, but as VASA SA director Dave Jackson says, "it was worth every bit of the wait."

The members participate in cooperative advertising, which reaches a huge audience of well over half a million members of the club.

RAA now insists that any workshop wishing to become an approved repairer in the A/C category, must be members of VASA and must follow VASA policies, repair procedures and equipment requirements.

The picture shows Scott Robertson, Technical Liaison Manager of RAA, with Dave Jackson, at the VASA AGM celebrations in Adelaide during August 2007.

## VASA tells Government to stand firm on proper competency assessments for all, regardless of experience

VASA has told the Department of the Environment and Water Resources to stand firm on their requirements for all sections of industry to prove their competencies properly before licenses are handed to them on a plate.

It seems a large number of full RAC licence holders believe they should automatically receive endorsements to work on auto systems, on the basis that they have been doing it for a period of time.

VASA acknowledges that in provincial areas particularly, there are many competent people servicing all kinds of equipment, both stationary and mobile, through regional necessity.

However, any watering down of the requirement to prove their competencies flies in the face of the licensing concept, and VASA has told the



Government so.

The Department hired a consultant to look at the training and competencies and come up with some options for granting auto licences for RAC holders.

Among them were:

- a number of years of relevant industry experience
- satisfactory completion of a paper-based exam
- a question and answer session
- completion of a range of activities in the presence of an auto A/C licence holder.

VASA believes that only a paper-based exam can guarantee that the Government's objectives are met.

The moment the process is simplified for anyone, the Government might as well abandon the whole thing.

# VASA Board expands to include AAAE



Mark Padwick



Mark Mitchell



John Blanchard



Barry Rogers



Dave Jackson

The Board of Directors of VASA was re-elected unopposed at the Annual General Meeting held in Adelaide on 17 August.

Mark Padwick remains President, assisted by Vice-President Mark Mitchell, Treasurer John Blanchard and Directors Barry Rogers (NZ) and Dave Jackson (SA).

Added to the Board to reflect the transfer of AAAE operations to VASA were its President Deyan Barrie and Secretary Jeff Smit, both of whom run large retail workshops in Sydney.



Deyan Barrie



Jeff Smit

Gold Coast based public relations consultant Ken Newton remains as VASA CEO.

President Mark Padwick said it was important that the VASA Board represented workshops as well as OEMs and wholesalers.

This election means that of the seven member board, three are operators of retail workshops, while two others, Barry Rogers and Mark Mitchell come from strong workshop backgrounds, and still have substantial interests in the retail sector, although both also import and operate wholesale outlets.



Ken Newton

## How the changeover will work

Members of AAAE will automatically be considered as members of VASA (Incorporating AAAE) under the new membership arrangement.

Members will have a choice to continue their membership when VASA (Inc. AAAE), sends out the annual renewal notices for subscriptions at the same old price of \$275, including GST.

Members will recall that invoices usually go out in June, but because of the planned changeover of administration, it was felt prudent to wait until members decided on the future of the organisation.

Those members of AAAE (and there are more than 30 of them), who are already fully paid up members of VASA, will need pay no more.

The balance of members, who are members of AAAE only, will receive their renewal notices soon, and once paid, they will remain members of VASA (Incorporating AAAE) until June 2008.

For all intents, life goes on as normal for these members. Members of the old board have agreed to carry on as a special advisory group, to act as a conduit between members and their Board representatives, Deyan Barrie and Jeff Smit.

## What's in it for the auto elects?

Plenty, according to the two auto electricians who have been at the helm of the AAAE for years.

The message from Deyan Barrie and Jef Smit is very clear - auto electricians who want to prosper and keep up in the game, must stay connected to an organisation which can provide the network.

Jeff Smit said, "The talent and expertise within the combined group of members (VASA and AAAE) is enormous. The networking possibilities are one of the greatest benefits of joining a group of like minded technicians.

"The technical advancement in the automotive area is continually increasing and those who choose to surround themselves with the best people will continue to prosper."

Deyan Barrie believes the key to a successful network is good communication.

"As an auto electrical business I don't wish to lose the logo and I still would like to have my national warranty systems in place and have networking as we had in the past.

"The AAAE spirit is not dead. We are just expanding to a new and higher level for the benefit of all."



THE MOBILE AIR CONDITIONING SOCIETY WORLDWIDE

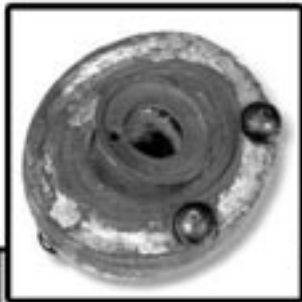
# MACS SERVICE REPORTS

## Repeat compressor failures

By Paul Weessler – MACS Technical Correspondent

**Repeat** compressor failures invariably are blamed on remanufactured junk, or if new, on (name of manufacturer)'s junk. Plus 'I tried to save the customer money, but did everything necessary.' What does that mean? Not flushing, not installing in-line filters, not replacing the condenser?

Sure, compressors eventually reach the end of their life. Maybe they were barely surviving with marginal voltage to the clutch, or affected by inadequate cooling system operation. Another root cause may be related to refrigerant charge. Too much refrigerant and head pressures rise, making the compressor overwork; too little and reduced oil circulation starves the compressor for lubrication.



When it comes to a repeat failure, you really want to know that you've installing the right amount of refrigerant, and you can't rely on pressure gauge readings for that. With charge tolerances so tight – typically 10% -- 'close enough' doesn't work anymore.

Repeat failures add still another dimension. Compressor and vehicle manufacturers say many technicians take shortcuts, use tools and/or equipment, parts and procedures that won't do the job, and an accompanying factor: they kid themselves.

When the repeat compressor failure is catastrophic, whatever the root cause,

there's almost always a lot of debris in the system, and that should mean replacement of parts in addition to the compressor:

- Typically, at least accumulator or receiver-drier, orifice tube or thermostatic expansion valve or the TXV screen,
- And on late models, usually the condenser and/or some appropriate type of flushing.
- A filter (below) is a good finishing touch



(ditto for a suction screen).

But if the system still is loaded with debris, the filter could plug pretty quickly.

You may not be able to get all the debris out even if you replace just the minimum parts, and it's a difficult balancing act with the economics of the job. Some shops realise when a condenser replacement is indicated, but try to save on new condensers, by using 'well, it fits' replacements with poor heat transfer. This just leads to high head pressures and short compressor life. There's rarely a successful 'cheap fix.'

That's why some flushing – or more parts replacements – usually is necessary to minimise comebacks. However, a flushing procedure that leaves more than a trace of even a reputable solvent flush will dilute the oil and guess what?

Also, late-model condensers have such tiny passages (below) that trying to flush out debris from them is not likely to succeed. Ditto for hoses and lines with mufflers – you have to replace them.



### Changed 'EVERYTHING' - someone's kidding himself

"I replaced every single part in this system, and the new compressor failed," (or) "It still won't cool." Many technicians can say, with real conviction, that they've

## There's rarely a successful cheap fix

replaced everything, or did everything by the book.

Sure, a problem may recur because one of the replaced parts was defective or it was the wrong part. The wrong part could be a cheap compressor, but we often find parts that bolt up in place of others, but are functionally different.

Example: following a front-end collision, a 2005 condenser was installed on a 2006 Chevy Impala 5.3-litre V-8 ('looked the same' and bolted up). Blame the body shop because (hopefully) no A/C pro should miss the fact that the 2005 Impalas have a separate receiver-dryer, and 2006 models have the condenser with integrated receiver ('modulator' with desiccant bag built in). Side item: the Impala (a transverse front-drive car these days) didn't get the V-8 until 2006; only V-6s were used.

However, no one replaces EVERY single part on the A/C, no matter how catastrophic the compressor failure. And the parts replaced often aren't the repeat-failure root cause.

There's something else the technician didn't replace or do, or repair properly. Or he did something that's worked before on other systems, but doesn't work this time, and he's surprised, or in denial – 'nah, it wasn't THAT. I've never had a problem with THAT before. THAT'S great stuff.'

### A flushing issue - plus the limits to flushing

"That" isn't some unnamed mystery. Some shops still use R-11 and R-113 as flushing agents (they haven't been produced in eons in the U.S., but there seems to be a lot around). These flushes worked great on CFC-12 systems, but when some early attempts at retrofit to HFC-134a failed miserably, one cause was trace amounts of them.

R-11 and R-113 are considered "secret weapons" pulled out and used for some really contaminated HFC-134a systems. The technician figures they were great on those old CFC-12 systems, so they also will really clean up total failures today.

Ditto for some aftermarket flushes, but with a somewhat different slant.

**VASA and MACS Worldwide signed an affiliation agreement in 2005. The two organisations collaborate on major industry issues, and VASA is grateful for access to top technical information from MACS experts.**

Reputable aftermarket flushes may be helpful with minor amounts of debris and oil removal, particularly those used with closed-loop flushing machines and air purges. Shops see they remove debris and push the envelope.

But when it comes to a catastrophic failure, even R-11 in the CFC-12 days often wouldn't do the job, and the condensers of the CFC-12 days had much larger tubes than today's models with passages the diameter of a toothpick or smaller.

When reputable aftermarket suppliers today talk about catastrophic failures, they typically have a long list of parts to replace, and filters to install. They may recommend their flush only for some parts of the job.

Doesn't Ford recommend a specific terpene flush for catastrophic failures? Within certain limits, yes, but only as part of a comprehensive procedure, which we'll talk about in another chapter of this story; the case history of a late model Ford rear-drive car (Crown Victoria/Grand Marquis). Ford's flushing procedure is specified with a particular flushing machine, with a lengthy air purge.

Does that really matter? Yes, if you plan to use a Ford shop manual procedure on a Ford vehicle. Ford never tried any aftermarket flush and doesn't know under what conditions it works and doesn't work for major contamination, or what procedure might be required.

When Ford validated its flush, it determined the amount of time needed to circulate the solvent for debris removal, it tested the air purge procedure often enough to be sure that only the most minor trace might be left in, and that the trace did no harm.

Further, as Ford condensers went through design improvements, with tinier passages and more flow paths, Ford recognised that with catastrophic failure it might not always be possible to include the condenser in that flushing operation, in which case replacement was necessary. So as noted earlier, shops that don't replace with an OE-level condenser,

**Comment:**

***Is it customer resistance, are you just a poor salesman, or do you want to stay down the bottom end of the food chain?***

I've never understood why anyone in business, especially the car repair business, needs to be concerned about customer resistance (as mentioned in the article above) to quality service and the use of quality parts.

could see higher-than-normal head pressures and in hot weather, premature compressor failures.

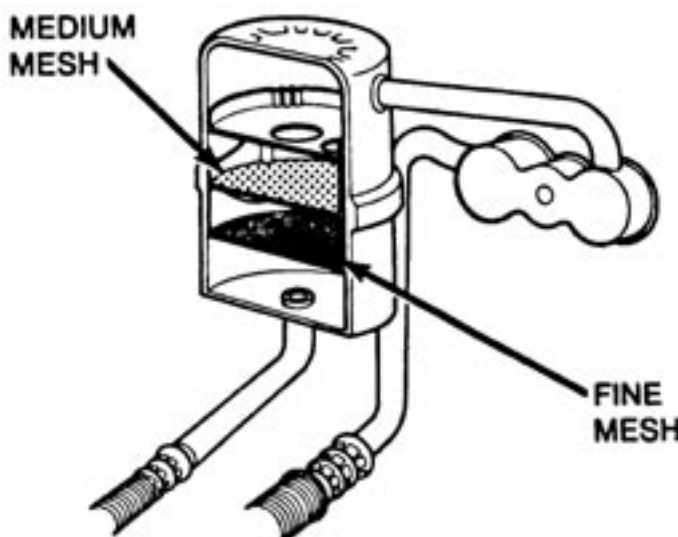
If you don't put price first, you can get OE-level condensers, and many shops do, from reputable suppliers. But we find out about shops that do so many things so well, but take shortcuts when dealing with catastrophic failures.

We understand the impetus: many parts to replace, much work to do, and the price edges up to the area where there's customer resistance. So using some cheaper parts lowers the total, whether it's with the condenser, a questionable compressor, a make-it-fit evaporator and an old favourite: flushing hoses with mufflers, instead of replacing them.

Hoses with mufflers can't be flushed successfully. To quote Ford: "hoses without mufflers can normally be re-used unless they are clogged with foreign material...Install new refrigerant hoses with mufflers if clogged with foreign material." You can't tell without cutting apart, so just replace.

Another approach that's even worse: just blowing shop air through the hoses, and when the air comes out the other end, deciding to re-use the hose – sorry, shop air (or dry nitrogen) through a hose isn't flushing.

But even a flushing agent blown out of a spray gun may not completely clear a hose after a catastrophic failure. It's not that the hose still is packed—it probably isn't, but as the remaining debris flakes off from the walls of the hose, and gets carried to the compressor (or even as far as the expansion valve), it's not going to improve compressor life or performance. That's why cautious shops that flush suction hoses also install suction side screens. (below)



Remember the old problems with suction hoses in which the inner liners collapsed? You could cut those things apart and see the necked-down areas, but you might find it hard to believe the seemingly small amount of reduction in diameter was responsible for major loss of performance – but it was.

*Continued Next Hot Air: Flushing with refrigerant Debris and filtration and oil balancing Factory fixes are 'special'*

Those who wish to compete in the bottom end of the market should do so, and let the buyer beware. But it's not a great way to make money.

If a professional car repairer cannot justify to a customer why he needs to replace a part with a quality item, instead of a cheap clone which he knows will not last the distance, he really doesn't deserve to be in the business. Surely repairers have a duty to their customers to keep

them on the road, and safe. If the customer is such a cheapskate that they insist on cheap replacement parts, tell them they are at the wrong workshop.

**There is scarcely anything in the world that some man cannot make a little worse, and sell a little more cheaply. The person who buys on price alone is this man's lawful prey.**

**Ken Newton**

# The value of training will justify attendance at Wire & Gas 2008

The marketing program for Wire & Gas 2008, to be held in southern Queensland, will reflect the belief that training is the single major drawcard of the bi-ennial convention and trade show for the vehicle air conditioning and auto electrical industries.



Also reflecting the changing technologies of climate control systems, many technicians are asking that radiator maintenance and repair be added to the training program.

The convention, to be held over the long weekend 7-9 June 2008 will feature a number of changes, especially in the way the program is marketed.

The committee will give prospective delegates an idea of the value of the training to be provided, in a bid to boost numbers to a target of more than 400. This would make it the biggest convention in history for this industry.

The team is convinced that there will be enough value reasons to justify attendance at the convention and as a by-product, there will be special programs to attract partners and children as well.



As a result of the appointment of Brisbane firm OzAccom Conference Services to run the show, delegates will be able to make a one-call booking for the convention, travel, accommodation and tours for the family.

Many workshop owners take advantage of the mid-winter slowdown in A/C work for their annual holidays, and the convention provides a great platform for involving the family, and writing off several days of training and convention activity on tax.

The first convention fliers will be out well before the end of the year, but technicians around the nation should plan now to attend.

For the first time there will also be great incentives for workshop owners to bring staff at a reduced rate, and also to involve apprentices and trainees in the program.

## The last word...



The AAAE website will close down shortly, but much of the information which was of interest to auto electricians

will be incorporated into the VASA website.

We will extend the access to the technical pages of the website for all AAAE members for another three months, or until all new subs fees are paid (invoices go out soon).



For former AAAE members wishing to ask any question of their directors, please call Jeff Smit at 02 9439 6772

or email at TowerMotors@bigpond.com or mciverengineering@bigpond.com. Deyan Barrie can be contacted on 02 9476 6277 or at deyanbarrie@car-electrics.com.au.



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official journal of VASA and AAAE and will be published every two months and mailed to members. All inquiries should be directed to the CEO, Ken Newton at info@vasa.org.au, or Ph 07 5591 6274 or fax 07 5591 8172.

Website address is [www.vasa.org.au](http://www.vasa.org.au)

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Members will need a code to gain access to the technical library and other documents. Refer to the navigation bar on the left of the screen. If you have any problems, email to secretary@vasa.org.au and outline your problem.



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