

From the Secretary-General

Hello Again!

In our last Newsletter, I spoke to you about how close we were to finalizing a new 'look and feel' to our Website.

I am pleased to report that the 'new' RCAR Website is now a reality. As you access the Website, I would appreciate receiving your feedback on how easy you find it to navigate, and whether any further improvements can be made.



I am also pleased to report that another initiative I spoke to you about in our last Newsletter, the RCAR Conference Guide, is also complete, and has been posted on our website. As you review the Guide, please provide me with your feedback on this as well, so that we can keep the Guide as up-to-date and relevant as possible.

At our 2008 Conference in Paris, we spoke about the value of the Newsletter being only as good as the level of participation by you, our Members.

Once again, judging from the number of quality submissions received, as listed to the right, the current edition of the Newsletter should again prove highly interesting, informative - and valuable - to all!

In this edition, you will find a submission from Centro Zaragoza on their first annual 'Best Safety Choice CZ' awards, news from MRC Malaysia on a workshop held at the Automechanika Malaysia 2009 Trade Fair, a reminder about the upcoming ESV Conference in Stuttgart, several interesting articles from our friends at IAG, a number of articles from KART and Thattham, including an extract of a joint KART/THATCHAM paper on new power-trains that was prepared especially for this Newsletter, a number of updates from CESVI Argentina, an interesting article on tire pressure monitoring systems from MPI, several submissions from CESVIMAP, two good articles from IIHS, a paper from CESVI Mexico on their new certification program, several items of interest from CESVI Brazil, a submission from our friends at LVK on the LVK Technical Unit, an article from KTI on zinc plating, and a report from JKC on their presentations at the Spring JSAE Congress.

Thanks so much to all who contributed! Your participation is greatly appreciated!

Enjoy!

Wilf Bedard

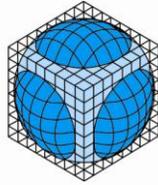
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From CENTRO ZARAGOZA:



CENTRO ZARAGOZA
 INSTITUTO DE INVESTIGACIÓN
 SOBRE REPARACIÓN DE VEHÍCULOS, S.A.

CENTRO ZARAGOZA PRESENTS THE FIRST ANNUAL "BEST SAFETY CHOICE CZ AWARDS" IN BRUSSELS

Awards for standard safety equipment in European vehicles

CENTRO ZARAGOZA (CZ), the vehicle research centre owned by 23 insurance companies in Spain and Portugal, has recognized 10 vehicles belonging to 7 car manufacturers which have stood out in Europe by reason of safety improvements made during 2008, taking into account the technological level of development contained in the standard equipment fitted to these vehicles.

The first edition of the "Best Safety Choice CZ Award" award ceremony took place on March 18th 2009, at Le Plaza Hotel in Brussels.

The 10 "Best Safety Choice CZ Award" vehicles for 2009 are:

Class	Vehicle
Supermini	ALFA ROMEO MITO
Small family car	VOLKSWAGEN GOLF
Large family car	FORD MONDEO
	OPEL/VAUXHALL INSIGNIA
Executive	AUDI A6
	MERCEDES BENZ CLASE "E"
Small MPV	MERCEDES BENZ CLASE "B"
Large MPV	FORD S-MAX
Small Off-Road 4x4	VOLVO XC60
Large Off-Road 4x4	VOLVO XC90

In order to award the "Best Safety Choice CZ Award 2009" in each class, CZ took into account primary and secondary safety aspects. This means that CZ studied factory-fitted Electronic Stability Control (ESC) systems offered as standard equipment in all versions of each vehicle model, and the level of protection for occupants in different accident scenarios (including rear-end collisions), following objective criteria at all times.

The award ceremony was opened by Mr. Jose Vila, President of CZ, who spoke about the 'why' behind the "Best Safety Choice CZ Award" prizes for 2009. Afterwards, Mr. Wilf Bedard (Secretary – General, RCAR -- Research Council for Automobile Repairs) took the floor to explain what RCAR is, as well as say a few words on the road safety activities carried out by RCAR members, including CZ. Immediately afterward, Mr. Brian O'Neill, CZ Advisory Committee Member, explained the technical criteria used by CZ to determine the winners.

After that, Mrs. Eva Castellero, the presenter (Aragon [Spain] Broadcasting Public Corporation, CARTV), began the presentation of the vehicle awards:



RCAR Secretary-General Wilf Bedard

- ☞ **Class: “Supermini” – Awarded vehicle: ALFA ROMEO MITO**
 - Presenter: Ms. Paola Verderio (Motor Insurance Department -ANIA).
 - Recipient: Mr. Wim Willem (Press Manager - ALFA ROMEO).
- ☞ **Class: “Small family car” – Awarded vehicle: VOLKSWAGEN GOLF**
 - Presenter: Mr. Mariano Bistuer (Deputy Manager - CZ)
 - Recipient: Dr. Torsten Strutz (Head of Car Safety - VOKSWAGEN AG)
- ☞ **Class: “Large family car” – Awarded vehicles, in alphabetical order:**
 - FORD MONDEO**
 - Presenter: Mr. José M^a Plaza (Claims Manager Director - AXA)
 - Recipient: Mr. Nick FitzGerald (Chief Engineer CD-car - FORD)
 - OPEL/VAUHALL INSIGNIA**
 - Presenter: Mr. Gerhard Riehle (Miembro de Comité Asesor de CZ)
 - Recipient: Mr. Michael Hartwig (Director European Marketing Communications - OPEL/VAUHALL)
- ☞ **Class: “Executive” – Awarded vehicles, in alphabetical order:**
 - AUDI A6**
 - Presenter: Mr. Javier Velasco (General Manager - AUDATEX)
 - Recipient: Dr. Thomas Schwarz (Head of Car Safety Project and Processes – AUDI AG).
 - MERCEDES BENZ E-CLASS**
 - Presenter: Mr. Pedro Seixas (Chairman of Portuguese Association of Insurers - APS)
 - Recipient: Dr. Markus Hermle (Executive Assistant to the Vice President Safety, NVH, Testing Mercedes-Benz Cars / Development -DAIMLER AG).
- Class: “Small MPV” – Awarded Vehicle: MERCEDES BENZ B-CLASS**
 - Presenter: Mr. Kenneth Roberts (Advisory Committee’s Member - CZ)
 - Recipient: Dr. Markus Hermle (Executive Assistant to the Vice President Safety, NVH, Testing Mercedes-Benz Cars / Development -DAIMLER AG).
- ☞ **Class: “Large MPV” – Awarded vehicle: FORD S MAX**
 - Presenter: Mr. Manuel Mascaraque (Director of General Insurances - UNESPA)
 - Recipient: Mr. Nick FitzGerald (Chief Engineer CD-car – FORD).
- ☞ **Class: “Small Off-Road 4x4” – Awarded Vehicle: VOLVO XC 60**
 - Presenter: Mr. José Manuel Álvarez Quintero (Member of the Board of Fidelidade Mundial and Imperio Bonança).
 - Recipient: Mr. Magnus Jonsson (Senior Vice President and head of Volvo Cars Product Development Department – VOLVO CAR CORPORATION).
- ☞ **Class: “Large Off-Road 4x4” – Awarded Vehicle: VOLVO XC 90**
 - Presenter: Mr. José Vila (President - CZ).
 - Recipient: Mr. Magnus Jonsson (Senior Vice President and head of Volvo Cars Product Development Department – VOLVO CAR CORPORATION).

Immediately after the award ceremony, Mr. José M. Carcaño, General Manager of CZ, brought the proceedings to a close, explaining the activities carried out by CZ, pointing out those ones related to road safety, and giving thanks to all attendees, and especially to those who accepted the very first “Best Safety Choice CZ Awards”.



CZ General Manager Jose Carvalo

CZ, whose main objective is to develop initiatives to improve road safety, has obtained seen this new initiative that rewards car manufacturers who incorporate standard safety equipment well-received by both European car manufacturers and the European insurance sector.

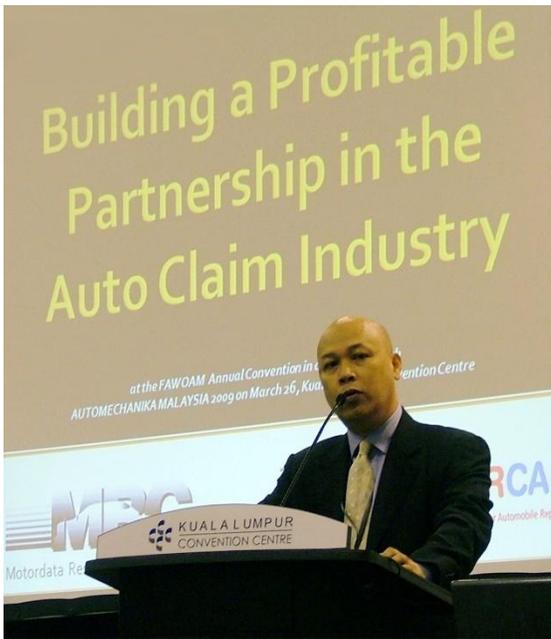
CZ is thinking of awarding its “Best Safety Choice CZ Award” each year. The aim of these prizes is to recognize car makers who increase the number of vehicles with primary and secondary safety systems as standard safety equipment that will, in turn, result in reduction of the vehicle accidents, which is always a benefit for consumers.



Award Recipients and Presenters

From MRC Malaysia:

MRC Malaysia at Automechanika Malaysia 2009



MRC participated in the Federation of Automobile Workshop Owners' Association of Malaysia (FAWOAM) Live Workshop at the Automechanika Malaysia 2009 Trade Fair, jointly organised with Messe Frankfurt GmbH Hong Kong, and Malaysia External Trade Development Corporation (MATRADE) at the Kuala Lumpur Convention Centre on March 26, 2009.

Automechanika Malaysia 2009 is exclusively focused on automotive parts, equipment & services. The aim of the event is to bring together top leaders from the industry on a single platform, providing a fabulous chance for participants to get updated on the newest equipment and technologies, as well as great networking opportunities.

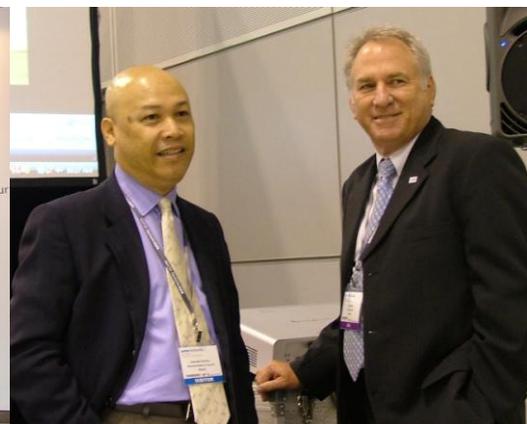
Khaeruddin Sudharmin, (left) Managing Director & CEO of Motordata Research Consortium (MRC), provider and administrator of the Collision Repairs Industry Database, was invited to share with delegates the current auto claim industry scenario in Malaysia; the roles of stakeholders -- insurers, repairers and loss adjusters; how they could synergise their respective roles and powers to build a profitable partnership; and how MRC as a major service provider can help in the process.



Other speakers were ① Cho Chee Seng, President of FAWOAM; ② Fiona Chiew, Group Manager, Exhibition, Messe Frankfurt Hong Kong; ③ Richard Pratt, CEO, I-CAR Australia; & ④ Daniel Loh, GM, Top Diversified Sdn Bhd.



Daniel Loh addressing the Workshop



Khaeruddin Sudharmin & Richard Pratt

MRC Hosts Motor Insurance Claims Seminar



Seminar Participants

MRC Malaysia also conducted a “Motor Insurance Claims Seminar – An Application of Forensic Science, jointly organized with the Forensics Department, Polis Diraja Malaysia, on April 20, 2009, at the Forensic Lab, Police Academy Cheras, Kuala Lumpur, Malaysia.

Participants (from the Road Transport Department, JPJ, repairers, motor insurance, and other automotive-related industries) were given updates by MRC Malaysia, while the welcome and opening address were given by YBhg Dato’ Abdul Malek Hj Haron, Head of the PDRM Forensics Department, followed by presentations on the PDRM Forensics Department by Supt Dennis Lim, and a tour of the facility. The participants were then treated to a presentation on “Theory of Forensic Science in Automobile Identity Verification.”

THATCHAM Visits MRC



In April 2009, Jason Mosely, COO, & John Briggs, Manager of Security Systems, THATCHAM, visited MRC. We arranged for them to see Sepang F1 KUALALUMPUR, an industry briefing to the National Theft Reduction Council, as well as visits to motor insurers, adjusters, PARS, and vehicle manufacturers, co-arranged courtesy of the Malaysian General Insurance Association, PIAM.

They were also taken to visit PROTON, our national car manufacturer.

From IAG:

Hidden Hazards Behind the Wheel

The latest results from the Car Blind Spot Ratings system developed at the IAG Research Centre were recently published in Australia.

This received an enormous amount of general media coverage throughout Australia, including interviews on television, radio and in newspapers.

The blind spots in Australia's top selling cars were measured to help customers choose safer cars and to influence car manufacturers to produce improved vehicle designs.

The designs of some cars can reduce visibility for drivers especially at intersections, roundabouts and pedestrian crossings. Drivers need to be aware of the blind spots on their cars and move their head to look around the blind spots when necessary.

Very few of the 138 new vehicles tested were rated more than two stars out of five. Australia's best-selling car, Holden Commodore scored only one star.



Panoramic Citroen C4 Picasso scored 4 Stars Sleek Honda Odyssey scored just 1 star

Car manufacturers face a challenge to achieve maximum safety combined with good driver vision, but there were 14 cars that achieved both good visibility as well as good ANCAP crash safety ratings.

For full results, visit the IAG Research Centre website:
<http://www.iagresearch.com.au/content/view/111/119/>

Radar Helps Drivers Avoid Crashes

The Volvo XC60 is the first vehicle in Australia to offer collision avoidance technology for low speed rear-end impacts, which are the most common type of collision in insurance claims.

NRMA Insurance and Volvo recently invited members of the media to test this technology first-hand in Sydney.

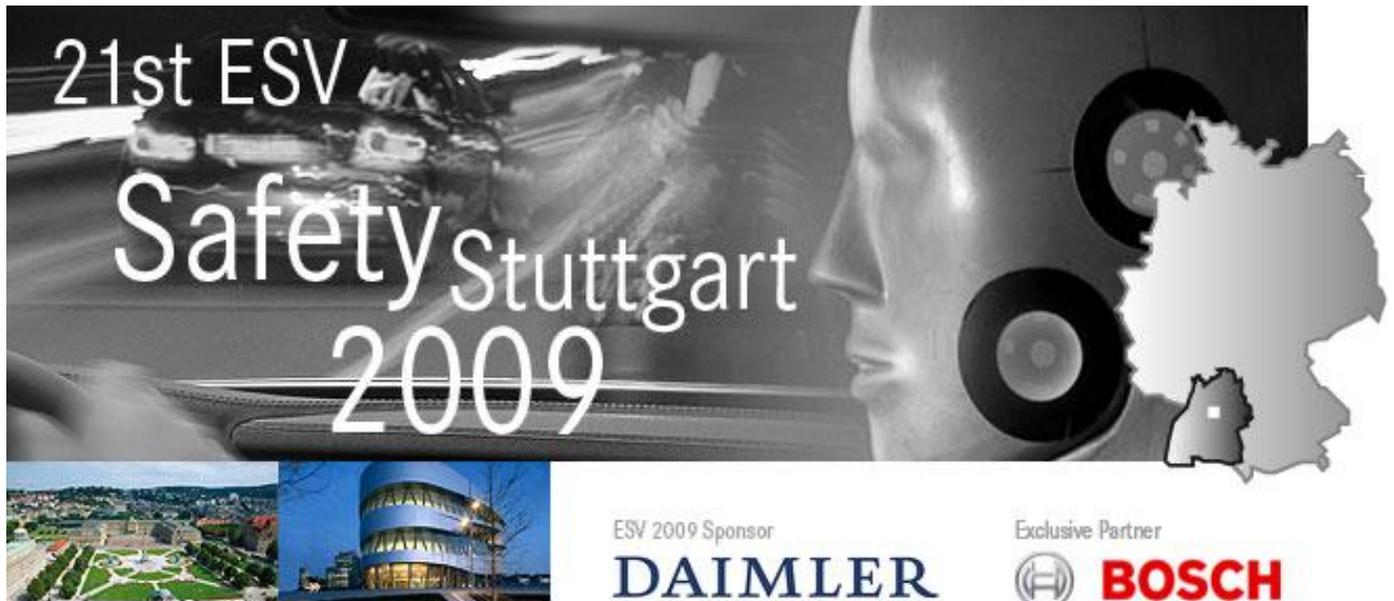


Journalists experienced Volvo's City Safety system by driving the XC60 towards the back of a special inflatable crash test vehicle. In each case, the Volvo activated its brakes automatically, and stopped short of a collision.

Further details are on the IAG Research Centre website:
<http://www.iagresearch.com.au/content/view/105/10/>

From DEKRA:

21st Annual ESV Conference in Stuttgart, Germany



The Conference on the Enhanced Safety of Vehicles (ESV) is one of the largest and most important in the field of vehicle safety

This year, the 21st annual ESV Conference takes place in Stuttgart, Germany from June 15-18.

The DEKRA Technology Centre is involved in six papers, and will give two presentations as part of the technical program. As one of the two main sponsors, DEKRA will host a technical event on Thursday June 18 at the Malsheim Airfield near the Conference venue. With this event, the DEKRA Technology Centre will present specific examples of its accident analysis, research, and testing activities, as well as demonstrative outdoor tests. Participants can get the experience of riding prepared vehicles to learn first-hand about the consequences of inadequate friction between tires and road surfaces.

The latest information about the ESV Conference is available at www.esv2009.com.

DEKRA would very much appreciate RCAR members attending this important international conference!



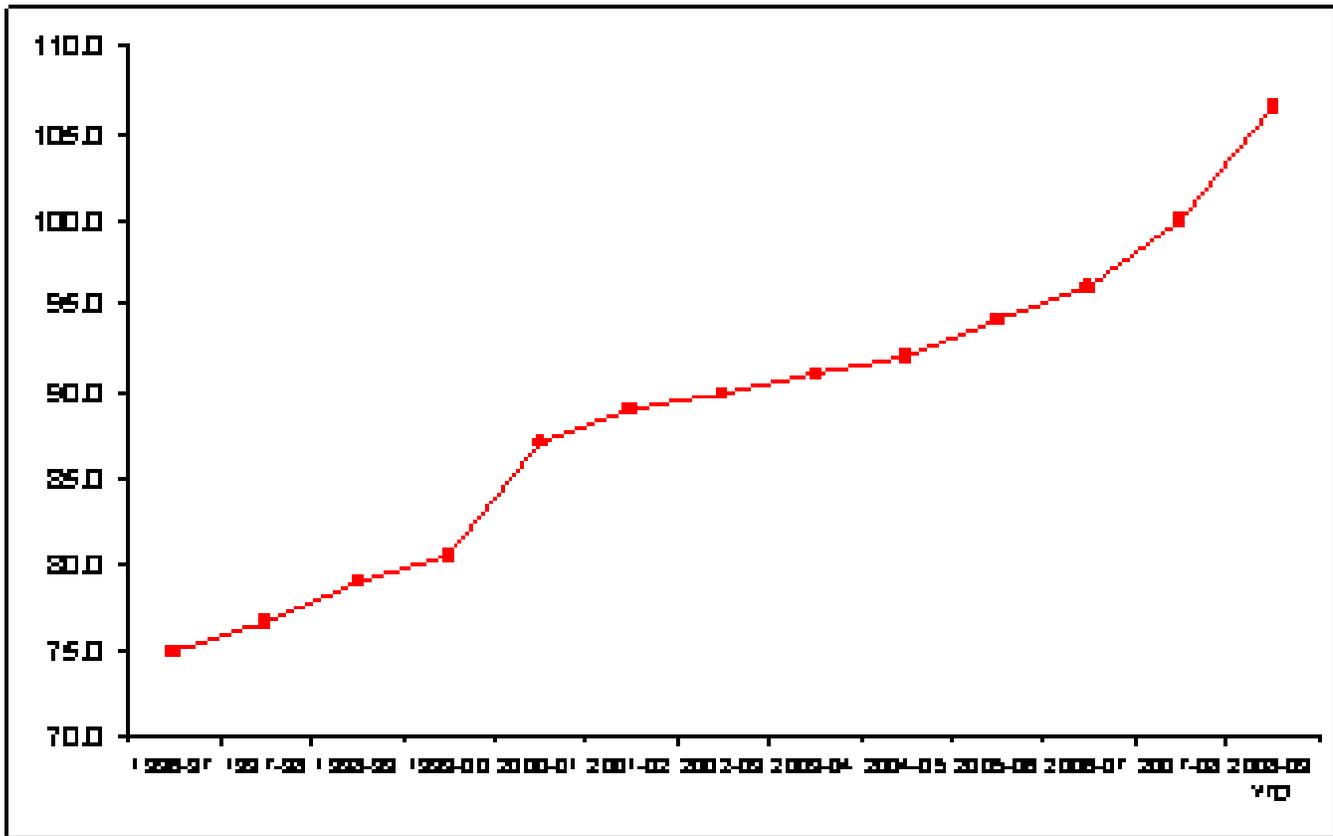
From IAG:

Exchange Rates Push Up Parts Prices

The decline of the Australian Dollar against the Yen, Euro and US Dollar currencies has hit the automotive industry hard. Apart from having to increase the prices of new cars at time when sales are slow, most car companies have also been forced to pass on the higher costs of imported replacement parts for collision repairs.

The IAG Research Centre produces a monthly report on trends in parts pricing, including weighted indices for all major brands and a report on significant price changes for each model.

The IAG Part Price Index has seen the biggest-ever rise in parts prices in the past quarter. This is likely to push up the cost of repairs for most cars and it may also lead to more vehicles being written off by motor assessors.



For further information about part pricing reports, please contact Anthony Boddy at the IAG Research Centre, on parts@iag.com.au

New Falcon is Australia's First Five-Star Car

Ford's new FG-series Falcon is the first Australian-built vehicle to be awarded the maximum five-star crash test result for occupant safety by the Australasian New Car Assessment Program ([ANCAP](#)).

Ford's entry-level petrol-engined Falcon XT sedan performed well in the frontal offset, side impact and pole-impact tests.



Designed and built in Australia, Ford Falcon is in the top 7% of all published ANCAP results

This is a significant milestone for an Australian-made car and will no doubt encourage other manufacturers to try and achieve five-stars for safety.

IAG is a contributor to the ANCAP safety test program through the NRMA Insurance brand. Robert McDonald, Head of IAG Research Centre, recently joined the ANCAP Council.

IAG Releases Car Theft Ratings

Car theft and rebirthing could be reduced if more car companies adopted self-voiding labels, which cost as little as \$2 each.

This was recently highlighted during a media release at the IAG Research Centre where we rated popular cars according to how easy they are to break into, steal and rebirth.

For further information, see:

<http://www.iagresearch.com.au/content/view/19/25/>



The new Audi A4 achieves one of IAG's best anti-theft ratings

The Emergence of New Types of Powertrain and the Impact on the Insurance Industry

SANG WOO SHIM Research Engineer, KART/KIDI / **ANDREW MILLER** Director of Research, THATCHAM / **ANDREW MARSH** Advanced Data and Methods Manager THATCHAM

Introduction

The 'Green' movement within International motor shows for the past three years has developed to the point that it is now seen that global vehicle manufacturers dare not take this important factor into account. An example of this movement was the recent 2008 London Motor Show (July 23 to August 3) the major theme was "Green, Green and Green". This year, British Prime Minister Gordon Brown pledged £90m of government money to help make Britain "the European capital for electric cars", and he also said that money would be available over five years to support (full) electric, (electric/internal combustion) 'hybrid' and other environmentally clean car projects. The move reflects the deals under discussion with Norway, Portugal, Greece and Israel. The two economic drivers of reducing CO₂ emissions and as well as reducing the risk of oil price increases are pushing vehicle manufacturers to make new powertrains such as full electric, electric/internal combustion engine 'hybrids', alternative internal combustion engine fuels, engines which can combust via compression as well as spark, and fuel cells.

In the last ten years, whilst Toyota has sold more than one million Prius 'hybrid' cars – a contrast to the position taken with GM's lease only EV1 electric car experiment, which was abandoned. The global Green movement as well as the prevailing legislation in key markets such as California – where sale of a zero emission vehicle is a requirement in order to sell any conventionally powered cars - has spurred GM to rework plans. Now GM has announced plans to begin making a plug-in 'hybrid', the Chevrolet Volt. This reflects what the majority of vehicle manufacturers have doing, which has required large R&D investments, as well as use of support offered by regional / national governments. The latter have been supporting this by cutting taxes and investing in new infrastructure.

In the near future it is apparent that the successful development of new powertrain variations will acquire higher priority for manufacturers, since the consumer base is very willing to accept reduced running costs – as long as fuel costs are high and tax incentives are available. So, what will be the impact on the insurance and repair industries? Since 2000 the revolution of new materials and joining technologies, introduced into vehicle body structures in order to make cars lighter & stronger, has resulted in some confusion in the repair industry. This has been in the main due to poor promotion of methods documentation, training of staff, objective analysis of available equipment and the very business model itself which has traditionally used by body shops.

This phenomenon is accelerating and is a critical subject in the new standards dialogue between insurers and the repair industry. In this paper, we will take a look at which vehicle manufacturers are particularly active in developing new powertrains, what type of technology is being employed, and what will be the challenges to the insurance and repair industries.

Global Warming & Environmental Challenges

The widely agreed phenomenon of global warming is assumed to be mainly caused by CO₂ emissions from the burning of fossil fuels, although this has been a controversial view internationally. According to research by GISS, the global mean temperature has increased 7C° in 100 years, and this is blamed on poorly controlled CO₂ emissions as a result of the industrialization of the developed and developing world.

Following on from and in accord with the Kyoto Protocol (1997) which is an international treaty on global warming for reducing CO₂ emissions, there was an undertaking for the automotive industry to continue to play its part. Specifically in Europe, thirteen major European vehicle manufacturers represented by ACEA (the Association des Constructeurs Europeens d'Automobiles) have agreed with the EU Commission to reduce CO₂ emissions for new passenger cars by 25% by 2008, which is an average of 140g/km. More recently this target was reduced further to 120g/km by 2012.

The importance of CO₂ legislation is significant. Broadly both in Europe and the USA vehicle emissions for hydrocarbons, CO and oxides of Nitrogen have fallen year on year – made possible by new emission technologies. The 'free' pollutant until now has been CO₂, which was not seen as being as harmful when the current emission legislation was started back in the 1960s. Given the movement to cut all emissions including those incurred during vehicle manufacture, vehicle manufacturers have been confronted with a completely new challenge. With strong support from government through measures such as tax benefits and exemption from local taxation (for example, the London congestion charge), many kinds of new powertrain are being developed for future generation vehicles, as it is the powertrain which is the emitter of the CO₂ during the service life of the vehicle – a prime target for reduction.

Oil price Volatility and Scarcity

Within recent years oil price volatility and scarcity have become recognized as major threats to world economic growth. In the first half of 2008 the oil price soared, then stabilized and at the end of 2008 fell back, but the long-term trend toward increased cost and extreme political volatility is clear. Energy economists refer to 'peak oil', i.e. that the world has already reached or is about to reach a point at which there will be a long term decline in oil output. Supply and demand economics dictate that developing countries such as China are using more oil than before, and, while the supply continues to be limited it is to be expected that the oil price will both fluctuate wildly and experience net year on year cost gain.

In addition politically unstable countries which have large reserves of oil such as Iraq, Iran and Nigeria add to general supply and demand volatility, thus creating a very difficult energy economy. It is very difficult to predict how much oil is left and when it will eventually run out. But, as all acknowledge that there are finite limits on oil production in a rapidly developing world economy, vehicle manufacturers have no other choice to prepare for 'peak oil' and its impact on the products they make. This has also accelerated the development of new powertrains which use less fuel to deliver the same effect as well as alternative. However, Bosch manager, Rolf Leonhard predicted that internal combustion engine with direct injection will continue to dominate the automotive market place for the next 20 years. Most commentators agree with this view, on the grounds that several themes are likely to emerge rather than one overall type of powertrain – depending on the economics of the target economy.

The Emergence of New Powertrains

The work by vehicle manufacturers in terms of reducing CO₂ emissions & developing new powertrains has been carried out predominantly through the last decade or so, driven by increasing demands of legislation (Euro II, III, IV, V and now VI in Europe – all in the last 10 years). The Vehicle manufacturer's business model is to sell more cars in the market whilst combating market competition. Therefore the consumers' preference is all important. A higher and more volatile oil price and its impact on fuel prices is starting to persuade consumers once again to consider more economical cars – just as during the last oil crisis. Thus vehicle manufacturers will be forced to develop more economical vehicles which meet this new consumer preference. But it's not just the powertrain which is changing - overall vehicle design is changing quickly to solve these problems.

One measure to increase fuel economy would be to reduce the vehicle mass - the most powerful single factor given most emissions occur during acceleration – by halving body weight overall fuel consumption could be cut by 25 to 30%. This target ignores the significant NVH issues that would be raised, or that the consequent vehicle would be demonstrably smaller than the class average. In order to reduce overall vehicle weight decreasing the weight of the body shell is necessary – thus producing a car with thinner materials. But doing this increases safety risks, which could in part be recovered by use of higher strength materials. This trend toward different vehicle body materials and joining technologies has been made possible by a revolution in design and manufacture, and is invisible to consumers, but from the perspective of insurers & repairers this change is presenting a huge challenge; one which eventually might lead to increase premiums.

Are New Powertrain Cars Safe Enough?

Vehicle safety is the one of measures used by motorists when they choose a vehicle. So, what about the safety of a new powertrain car? To date there seems to be no societal awareness regarding vehicle safety or other concerns with new powertrain cars.

Safety of Hybrid cars (Euro NCAP)

Model	Adult	Child	Pedestrian	ESC Fitment
Toyota Prius 2004	★★★★★	★★★★☆	★★☆☆☆	██████████
Honda Civic Hybrid 2007	★★★★☆	★★★★☆	★★★☆☆	██████████

If we see the crash test result conducted by Euro NCAP on vehicles with new powertrains we note that only two have been tested. The Prius is the first hybrid car to be tested by Euro NCAP. It achieved five stars for adult crashworthiness, four stars for child and two stars for pedestrian respectively. Euro NCAP said it had a very strong and stable passenger safety cage and side impact protection was impressive, too, while the recommended child restraints performed very well and they had average protection for pedestrians.



Toyota Prius II

The test results of the Honda Civic Hybrid was similar to the Prius and exactly same as the 'normal' derivative, the Honda Civic (2007) – hardly surprising given the IMA drive line features an integrated flywheel and starter motor. Thus the Civic IMA is not as complex as Prius 2. ESC fitments for both models are 'green', so no real difference can be perceived between the two vehicles.

In comparison with conventional vehicles hydrogen cars have a serious concern as hydrogen is astonishingly explosive. As it is non-carbon gas it burns with an invisible flame. Hydrogen was responsible for the Hindenburg disaster in which the world's largest airship was destroyed within minutes when docking in New York. This well known disaster has a large cultural resonance and will continue to provoke public fears about the danger of Hydrogen as a fuel. At an engineering level it is very difficult to make any container impervious to Hydrogen as it is such a small atom, so on-board management of it is very difficult and expensive. Within an internal combustion engine it can also produce combustion problems. So the safety challenges for Hydrogen cars will remain a very serious problem for the introduction of these vehicles.

Hybrid drive lines are likely to rely on bigger capacity LI-Ion battery technology as well as capacitors. Both devices have critical energy management issues – not least of which is heat – and the bulk of these systems may intrude further into the passenger compartment. This presents potential issues for the emergency services – should they kill the power? As the electrical systems will also be trying to cool the battery pack down this would be very dangerous. There will also be further challenges for the future development of occupant safety.

Electric vehicles can also cause unexpected safety problems. Lotus, the British performance carmaker, has introduced a new device that makes 'hybrid' cars louder. Since 'hybrid' cars first hit the market, concerns have been raised about the potential risk to blind pedestrians — as well as children and cyclists — who may not hear 'hybrids', which can be very quiet. Consumer organisations, such as the National Federation of the Blind, have pushed for legislation to address the issue. The new system, dubbed "Safe and Sound," was designed to generate artificial noise mimicking a gas-powered combustion engine. There are also some concerns about the potential negative health impacts from electromagnetic fields (EMFs) from electric vehicle such as 'hybrid' car. No doubt other unexpected safety issues for new powertrain cars will emerge.

Conclusions

The business of insurance is all about the accurate pricing of risk – as the saying goes 'there is no such thing as a bad risk, just a bad premium price'. With the emergence of the new powertrain car, new and different types of risk may present new challenges for the insurers. The most obvious of these is the higher repair cost caused by more a complicated powertrain which may be difficult to repair. Of course, as in other areas of insurance this is not only a problem for the insurance company as well as the repairer, but will ultimately affect the motorist who will have to pay a higher insurance premium once the insurer reflects the true cost of repair and the risk it represents in the premium charged for insurance. Vehicle manufacturing technology has been developing radically and evidence to date shows that in the changes to the body structure that has been done mostly without considering reparability. The vehicle body has evolved which has high strength, high rigidity and light weight because of the necessity for the automotive industry to improve crashworthiness and reduce CO₂ emissions and this is a problem for the repair industry. This trend will accelerate with the emergence of the new powertrain car resulting in even more complexity in repair.

For example MMC (Mitsubishi Motors Company) has developed and applied on the "i" – a cheap mass market basic car – a steel space-frame body that is highly strong and rigid but with extensive use of aluminum for the sub-frames, suspension links and the engine.



Mitsubishi I Aluminum Engine



Mitsubishi i-MiEV

According to Thatcham (The Motor Insurance Repair Research Centre) which did repair methods and repair times research on the Prius II in 2006, when it is repaired it needs more care than conventional vehicles in the workshop for the repair technician in terms of health & safety because of its high voltage battery. In addition the Prius II repair times were higher than for other similar models. To meet the increasing environmental challenge it is inevitable that the vehicle manufacturers must adopt lighter and efficient materials in body repair in combination with an increasing complex powertrain. But how much will they take into account the aspects of reparability when they design these future vehicles?

As vehicles get more difficult to repair, insurance claims will of necessity rise, and as the complexity increases there could also be a negative impact on the repair industry as a result, as the cost of business grows through increasing requirements for complex repair equipment and training. Thirdly there could be an increased amount of waste handling and recycling from an environmental prospective which will add costs.

Thus we can conclude that vehicle repair will probably become more difficult and the emergence of new powertrain vehicles will lead to damage patterns which have not yet been seen. Consequently as a result repair costs may increase, which will be a big challenge for motor insurance companies.

Therefore motor insurance companies as well as related research organizations should monitor closely changes in the vehicle market mix as the new technologies emerge, and should prepare for these changes. As these different kinds of vehicle emerge, it will be necessary to train claim specialists for coping with these more complex claim settlements, and the UK Group Rating system for motor insurance may need to take into account the characteristics of new powertrain cars, thus ensuring that the pricing of premiums is more accurate and through its transparency of assessment bringing some influence on vehicle manufacturers in controlling repair costs.

The repair industry will need to monitor the market introduction of vehicles with new powertrains, and to ensure that information providers such as Thatcham and the VMs can provide appropriate repair information. The repair method and process will become even more important as vehicles become more complex, and the industry must step forward to full engagement with the new quality control standard PAS 125, applied and audited through the industry by the British Standards Institute (BSI); thus creating a strong foundation for managing future technical change.

Executive Vice President of Nissan Motor Co., Mitsuhiro Yamashita said "Motor technology is very old and in reality there has been little real change and progress in the basic technology." But he also admitted that things are changing quickly now as manufacturers prepare more hybrids and electrics for market. This change is not only applied to vehicle manufacturers, but also motor insurance companies, repair industries and related organizations.

From the vehicle perspective the powertrain variations on offer from each OEM globally will increase dramatically, and vary between markets. There will be offerings using not only petrol / diesel fuel, but also bio-fuels, compressed natural gas, the provision of public access mains electricity plug in points, and the longer term provision of a liquefied hydrogen supply network. The related motive technologies will use internal combustion engines (spark ignition, compression ignition and combined process), fuel cells and of course battery technology. The impact of the additional systems - even additional to the current conventional drive line - will create issues for the location of power control modules, DC /AC inverters, battery cooling modules, battery charging modules (for plug ins) and of course the high voltage connection between batteries and electric motors.

Vehicles not originally designed to take these additional parts may be forced to place some of the components in locations vulnerable to low speed accident damage. Further, the systems - especially for hybrids and for vehicles powered by liquefied hydrogen - may encroach on the interior volume for a given external size of car, and induce weight gain. This trend may put further pressure on reducing weight for all other aspects of the vehicle, with the result that this is likely to accelerate the development of fully bonded body structures with a large array of steel alloys. This would be a further revolution in vehicle architecture with all the impacts on the insurers and their repairers previously described.

Future Research

As the number of new powertrain cars is currently quite small there are very few comparative studies, strategic research or case studies about repair issues. However, there will inevitably be different and possibly even controversial repair issues which are brought into the industry as the 'hybrid', electric and hydrogen vehicles get more popular in market, and these may well be a big challenge for insurers and repairers. Recommended areas for future research are as detailed below.

Different Types of Accidents and Other Safety Issues

It is difficult to predict the characteristics of accidents involving the new powertrain vehicles as it is yet to be seen which technologies will become more common. However studies can be done on the new technical features and their architecture such as 'hybrid, electric and hydrogen powertrains, and thus it will be possible to identify specific risk. For examples even in a light crash some cars might be susceptible to energy releases which might cause a fire; and which may not be evident in the damaged vehicle, which would in turn mean that special care must be taken by the repair industry. Until now, safety has not been seen to be a big problem, even though 'hybrid', hydrogen and electric vehicles which have high voltage batteries contain a significant risk. Also vehicle manufacturers must consider the safety of post accident vehicles when they develop them, and it will be necessary for them to keep an eye on this issue as the sales of new powertrain vehicles increases.

Safety of Hybrid Cars (Euro NCAP)

Model	Adult	Child	Pedestrian	ESC Fitment
Toyota Prius 2004	★★★★★	★★★★☆	★★☆☆☆	
Honda Civic Hybrid 2007	★★★★☆	★★★★☆	★★★☆☆	

Repair Technology

Through the vehicle manufacturers' strategy to make vehicles lighter and stronger the insurance and repair industries now face significant challenges in repair. In some cases it has been found that it is hard or effectively impossible to repair these new body structures in the independent general repair shop because of the lack of appropriate repair tools, lack of training and even lack of appropriate replacement parts. As vehicle technology will become more diverse through the emergence of new powertrain cars, it may become more difficult for these repairers to repair a range of vehicles. Thus it is important that the insurance and repair sectors engage with the vehicle manufacturers, requesting that their perspectives are considered in future vehicle design and that reparability factors are considered.

Thatcham, in recognizing these issues has recently embarked on an ambitious program to provide researched repair methods to the repair industry. This program now sees information provided to the independent repairer on every new vehicle entering the UK market. Thatcham sees this vital service as key to the provision of safely repaired vehicles for the UK consumer, and will continue to develop this service in the future as vehicle complexity grows.

Further research on best-practice repair technology for the new powertrain car must be done. This could be added to the Research Council for Automobile Repairs (RCAR)'s 'Design Guide for Repair' which details best-practice design for vehicle manufacturers. This can be found on the RCAR website at www.rcar.org

From CESVI Argentina:

CESVI Argentina Expands



New CESVI Argentina Research Facilities

With an investment of \$ 2.000.000 Argentine pesos (approximately \$540,000 US dollars), CESVI ARGENTINA has opened an additional 1000 m² of facilities dedicated to claim, fraud and car theft research, which continue to grow due to the global economic crisis.

This 1000 m² joins the existing 9000 m² that the company already has, with 170 employees hard at work to give insurance companies the solutions they need in these tough times.

Vial Safety Alliance

Citroen Argentina and CESVI Argentina Join Forces to Promote Safer Driving



Representatives from Citroen Argentina and CESVI Argentina Celebrate their New Partnership

CESVI ARGENTINA and CITROËN ARGENTINA have joined forces to develop the “OPENING SAFETY ROADS” Program, which will eventually train thousands of people in road safety education, thru defensive driving techniques, road data collection, and other mechanisms in order to reduce the incidence of vehicle crashes in Argentina.

New Corporate Logo for CESVI Argentina



In a world of constant change, constant renewal becomes mandatory.

In such a world, the visual identity of a company is very important. That is why CESVI Argentina has created a new corporate logo, mixing the Crash Test image with the institutional colors of grey, red and, white.

This new corporate logo will be utilized on all CESVI Argentina external and internal communications, from June 2009 on.

E-Learning Arrives at CESVI Argentina



E-learning -- the tool used by the main educational institutions worldwide -- has arrived at CESVI ARGENTINA!

Since March 2009, CESVI ARGENTINA has been training insurance companies' employees thru e-learning, with new courses currently in development for launch throughout 2009.

From MPI:

Tire Pressure Monitoring Systems

Background

Tire Pressure Monitoring Systems (TPMS) were first introduced into the passenger vehicle market in 1986. In the United States (U.S.), the Firestone tire recall in the 1990s prompted TPMS legislation. On September 1, 2008 the National Highway Traffic Safety Administration (NHTSA) legislated all new passenger vehicles sold in the U.S. be equipped with a TPMS. While Canada has no mandatory requirement, most vehicles sold in Canada are coming equipped with TPMS.

Description of operation

The system operates by the wheel sensor transmitting a radio frequency signal to the control module. The control module then interprets this signal and determines the air pressure of each wheel. If an air pressure difference of 25% or greater is found between the vehicle's wheels the TPMS control module turns the warning lamp on indicating to the driver a low tire pressure condition exists. More advanced TPMS use initiators to tell the driver which tire is low. This information is transmitted via the driver information center. Some systems also transmit a temperature reading to the control module.

There are two types of tire pressure monitoring systems: Indirect, and Direct.

Indirect TPMS System

An indirect TPMS uses no additional components. The system uses the Anti-lock brake system components to monitor tire pressures.

A separate warning lamp in the instrument cluster is used for system operation.

Direct TPMS System Components

(photo one)

- Battery powered radio frequency transmitters located in-side each wheel on the vehicle.
- Control module that is located in the passenger compartment of the vehicle.
- A low tire pressure indicator lamp (photo two) is located in the instrument cluster.
- Some higher end vehicles may display tire pressure information at the driver information center.
- High end versions of TPMS use initiators located in each wheel well of the vehicle. The initiators are used by the TPS as a reference to determine what wheel position the sensor is transmitting from.

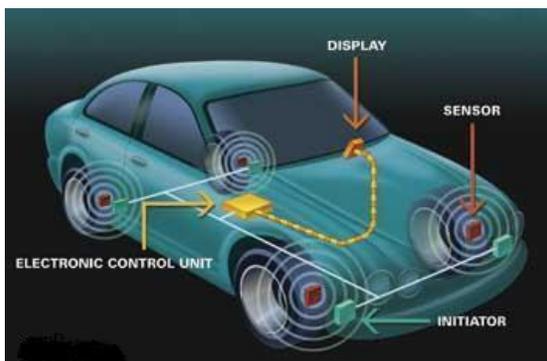


Photo One



Photo Two

How Tire Pressure Monitoring Systems are affected by collisions

The most common item affected by a collision is the Tire Pressure Sensor (TPS) located in each wheel. There are variations in sensor designs among vehicle manufacturers. Besides differences in size and shape, sensors also have differing radio frequencies used to transmit tire pressures to the control module.

Most designs of TPS are an integral part of the valve stem and the majority of sensor designs are reusable and can be switched over to a different rim. The sensors use a rubber seal around the valve stem that is serviced separately from the sensor and should be replaced when the sensor is being reused.

Wheels that use a TPS are specially designed and have a counterweight built into the wheel 180 degrees from the sensor location to avoid causing a vibration. The sensors are battery operated and have a life span of seven to ten years. The batteries are an integral part of the sensor's circuit board and are not serviced separately. Manufacturers are developing sensors that do not use batteries.

Calibration of the TPS is required when a TPS is replaced or whenever a wheel is removed and reinstalled in a different location on the vehicle. Calibration methods vary among manufacturers. Some recalibration procedures require the vehicle to be driven a certain distance at a predetermined speed and the new sensor automatically recalibrates. Other systems have a reset button, and finally some systems require the use of an auto-motive scan tool or specialized dealer equipment to recalibrate the sensors.

The valve stem is made of nickel and requires the use of a special valve core (photo three). Regular valve stems are made of brass and use a brass valve core. If a brass core is used in a nickel valve stem dissimilar metal corrosion will occur and may cause damage to the TPS.

Care must be taken when removing or installing a tire on a wheel that has a TPS because of the sensor's location on the wheel (photo four).



Photo Three



Photo Four

Used sensors can be used as an alternative to a new sensor when replacement of a TPS is required but caution must be used to make sure the used sensor is compatible with the vehicle's TPMS otherwise the system will not function.

Installing aftermarket wheels on a vehicle that is equipped with a TPMS will require the sensors to be switched over to the new wheels or the TPMS will not function.

At present, there are limited models of aftermarket TPS available.

Mitchell times for replacement and recalibration vary among vehicles but .7 hours is the average time. Current retail sensor pricing averages around \$100 each.

Currently there are no off vehicle test procedures for TPS. Aside from a visual inspection, the sensor must be installed in the wheel, put on the vehicle, and recalibrated to determine if it is functioning normally.

Trouble codes are retrieved and cleared using a scan tool.

Conclusion

Tire Pressure Monitoring Systems present new challenges when estimating and repairing damaged vehicles. Educating oneself on the system operation and cautions when working with a TPMS is essential to keep repair costs low and avoiding problems for customers.

From Thatcham/KART:

Thatcham Visits KART

Very recently, Andrew Miller, Thatcham's Director of Research, visited KART as a guest speaker at an Insurance Seminar held in Seoul. Andrew also visited the Centre's facilities and discussed mutually interesting topics.



Korean Insurance Conference in Progress



Conference Participants



Thatcham's Presentation to the KART Team



Andrew Miller with the KART Team

KART hosted the technical seminar on May 20 to learn about Thatcham's activities & initiatives for the development of claim settlement for Korean motor insurance. About 100 attendees from insurers, repairers, and vehicle manufacturers attended the seminar to get a better understanding of Thatcham's role and new initiatives.

Andrew made presentations on Thatcham's role & activities, repair technology issues and their impact on insurers and repairers, Thatcham's initiatives for quality repair in cooperation with UK insurers and repairers, the UK Group rating System, and the development of the Euro NCAP Whiplash Protocol and its impact on car makers.

The audience was keen to learn about Thatcham's experience in the UK. It is believed that the seminar will play an important role in improving the collision repair and claim settlement process in Korea. KART and Thatcham have also discussed enhanced cooperation in the form of introducing Thatcham's new products into the Korean market, and working more closely together by exchanging information for mutual benefit.

Parliamentary Advisory Council for Transport Safety (PACTS)

On 6th May, Thatcham's Crash Department hosted a demonstration event at Upper Heyford, Oxfordshire. This was attended by delegates from PACTS, whose aim is to advise and inform members of the House of Commons and House of Lords on air, rail and road safety issues. Their principal objective is "To protect human life through the promotion of transport safety for the public benefit". The delegates who came to Upper Heyford were members of the 'PACTS Working Group on Vehicle Design' which is concerned with investigating the primary safety systems that are soon to hit the market. Thatcham was able to provide a demonstration of a full ESC test using the steering robot, and also give the group the chance to test a range of systems for themselves. Systems tested on the day were: Lane Departure Warning on a BMW 7 Series, Volvo XC60 and a Citroen C5; Lane Keep Assistant on a Honda Accord; Driver Alert on a Volvo XC60; Collision Mitigation Braking System on a Honda CR-V; City Safety on a Volvo S80 (prototype); Collision Warning with Full Auto Brake and Pedestrian Detection on a Volvo XC60 (prototype); Night Vision with Pedestrian Detection on a BMW 7 Series.



Demonstration in Progress

RCAR Working Group Update



The RCAR working groups met in late May in Centro Zaragoza Spain. The Chairmen had managed to arrange back-to-back meetings to allow participants to attend more than one meeting, thus conserving travel budgets in these financially challenging times. Thatcham's teams report excellent progress on all major subjects. The important work of these groups is vital to RCAR's continuing success, and we look forward to the continued collaborative research outputs from these groups.

Whiplash Injury Toolkit (WITkit)

Thatcham continues to develop the new insurer claims management tool – the Whiplash Injury Toolkit – WITkit. This tool, co-developed with a leading software house will enable insurers to assess the technical aspects of the claim in order that faster and more effective settlement decisions can be made. It is expected that this new product will be available at the end of 2009 for market use.



Validation Crash tests for WITkit

Sweden Adopts Thatcham's New Vehicle Security Assessment (NVSA)

Thatcham's CE Peter Roberts and other staff recently attended the public launch of a new security ratings system which is based on Thatcham's New Vehicle Security Assessment (NVSA).

Thatcham's Vehicle Security team have spent several months advising and training representatives at TFF Service AB, a subsidiary of the organization of Swedish Motor Insurers, in order that they may implement an effective star rating system, ranking cars based on their resistance to theft, both of and from the vehicle. Anders Edverdsson from TFF service AB confirmed "With the help of the 1-5 star system, Swedish motorists can now see how safe a car is against theft and burglary. There is also a "letter rating" which takes into account how attractive the car is to steal".



Anders Edverdsson of TFF

NVSA: Norway Interest

Following Thatcham's recent success in supporting Sweden's adoption of the New Vehicle Security Assessment (NVSA), Thatcham and TFF recently met with the Norwegian motor insurance industry advisory group.

It is anticipated that representatives from the advisory group will visit Thatcham for the British Insurance Vehicle Security Awards (BIVSA) on 17th June during Thatcham's Triple Focus Exhibition.



Thatcham Thailand



Thatcham is now beginning Vehicle Damage Assessment (VDA) training to the Thai insurers in June this year.

This has been arranged through EMCS, a software house which provides an online estimating system to 27 Thai insurers (representing 53% of market share).

Most of the participants are representatives from the top 20 insurers, and it is expected that further training will be required as this country looks to adopt higher standards of VDA and technician training.

New Star Rating System for Plant & Machinery

The Thatcham Vehicle Security Department has recently announced the next phase in their fight against UK vehicle crime with the launch of a new star rating scheme for agricultural and construction plant and machinery. Plant theft has become an increasing concern for the insurance industry. It is currently a highly organized activity and perceived by criminals as high profit at a low risk with at least 10 items of plant stolen in the UK every day. The star rating scheme provides an indication of the quality of design and anticipated effectiveness of plant equipment anti-theft measures and is based on the following 5 key security points:

- Vehicle Identification
- Key Security
- Immobilization of Machine
- Peripheral Security
- After-Theft Tracking Systems

Thatcham's Vehicle Security specialists will carry out a full New Vehicle Security Assessment (NVSA P) on all agricultural and construction equipment submitted for assessment and will award stars, one for each of the security features that meet the required standards. The star ratings will primarily act as a tool for insurers to evaluate risk on a particular piece of equipment. Thatcham recommends a minimum standard of 3 stars should be reached to provide adequate vehicle security, and manufacturers are now being encouraged to achieve at least this level. The new star rating system is an important breakthrough for the plant industry, indicating how seriously insurers are taking the issue of plant theft, and it will ultimately drive improvements in standard fit security through manufacturers.



A Candidate for Assessment Under the New Star Rating System

First Aftermarket Parts Through New Joint Certification Scheme

Thatcham has recently certified 7 parts from Tong Yang, one of the world's largest suppliers of plastic parts, making them the first manufacturer to satisfy the requirements of the new joint parts certification scheme between Thatcham and TUV Rheinland. Testing of parts from this parts supplier and other major names such as Gordon and TKY will continue at Thatcham, whilst testing of parts from other pan-European and global supply sources has commenced in Italy with engineers from the TÜV Rheinland group. This new partnership will enable both Thatcham and TUV Rheinland to work with the larger suppliers worldwide, driving higher standards in the non-OE parts arena.

Thatchamnet Hits New Zealand

Thatcham's Business Development Manager Mike Paterson is featured in the most recent edition of the New Zealand Collision Repair magazine.

The article commented on the success of Mike's recent seminars explaining the benefits of Thatcham's new web-based methods access portal 'thatchamnet' – www.thatchamnet.com which were attended by "more than 90 industry personnel, ranging from shop owners, distributors, insurance companies and vehicle repair certifiers" when he explained "how easy it is to be connected to a valuable source of motor vehicle information."



Collision Repair

Caravan Security

As leisure vehicles grow in value they are becoming a major target for vehicle thieves. Thatcham's 'Thatcham Quality Accreditation' (TQA) department has recently accredited 'SmarTrack's Alert24 Keyguard' tracking system which makes it only the second device to achieve TQA for a system specifically for use within the caravan and leisure market. SmarTrack arranged for James Howe, one of the first SmarTrack customers to buy the tracking system, to bring his caravan to Thatcham so we could test out the device.



Testing the positional sensitivity of the 'SmarTrack Alert24 Keyguard'

Increasing Demand for Technical Helpline

Thatcham re-launched its Technical Helpline as an interactive web portal in January this year. The number of enquiries has risen to almost 17,000, as compared with just under 4,350 over the same period last year.

Following the launch of the Vehicle Body Repair Standard in 2007, the Helpline became increasingly inundated with technical queries, so an e-mail based system was introduced. Additional staff were drafted in to deal with the 30,000 technical enquiries we received last year. At the same time, our IT Development team created an intuitive web portal system which was launched in January, enabling our highly experienced team to deal with over 1,200 enquiries per week and to provide an efficient and professional service to insurers.



Thatcham's web-based enquiry service

From CESVIMAP:

CESVIMAP Collaborates on the 1st Avila Automotion Forum

The 1st Avila Automotion Forum will be held from July 8th-10th. Under the slogan “*New safety technologies. Avoid accidents, reduce their consequences*”, this congress will bring together highly significant members of the world of automotion, who will open the debate about R+D+I in automotion and its influence on drivers, how people drive, and pedestrians. The reason for choosing this Castilian city is the significant number of companies and activities related to the sector here – from components manufacturers to research centres and vehicle recycling centres, such as CESVIMAP.

The forum, which is international and will be held annually, will take place in the brand new Avila Convention Centre. The scientific committee, which CESVIMAP takes part in, and the expert committee which have developed this conference have sought to establish a common and periodic link for debate which will be an international point of reference for safety and the new technologies of automotion.

The first day will feature presentations with experts of the standing of Michiel van Ratingen, Secretary General of Euro-NCAP, who will speak about the new Euro-NCAP processes for testing and evaluating; Matthew Avery, Director of Accident Research at Thatcham, who will give details of the tests being conducted on bumpers for pedestrian protection carried out by RCAR; and Andrew Walter, Repair Technologies Director at Thatcham, who will explain the study on repair validation.

During the second day, Emilio Dávila, Project Officer at DG INFSO, European Commission, will speak about the advanced systems of driver assistance in Europe, leading on then to Francisco Sánchez, Director of Innovation of the Galician Technological Centre of Automotion, CTAG, who will comment on the next generation of these systems and the challenges they wish to rise to. Then it will be the turn of Antonio Marques, Director for New Technologies of the ETRA group, who will comment on traffic management systems and their communication with vehicles.

The final day will be taken up by Óscar Ciordia, Director General of the Technological Institute for Automobile Safety Foundation, FITSA, and Luis Peña, Director for Analysis and Research and International Relations at MAPFRE, to explain the communication methods for accident recovery and salvage.

Each day there will workshops and round tables for debate on the presentations.

www.foroavilaautomocion.es



DsCheck – New Software to Check Steering Geometry Elements

CESVIMAP has developed a computerized system to check the elements involved in steering geometry. Using the data provided when aligning the vehicle, DsCheck, once the vehicle model or the suspension type have been selected, is an aid to the professional to locate damaged or deformed parts.

El programme has incorporated more than 900 vehicles, with the main rear and front suspension types on the market: McPherson, double-wishbone suspension, torsion axle, rigid axle and multi-link suspension.

Through a series of steps, this IT application guides the user through a process which checks each angle, in search of possible damaged elements. The methodology used involves simple questions, accompanied with 3D drawings of the suspensions, flow charts, and explanatory help with photographs and text. These diagrams make things clear to the professional using DsCheck and focus the professional on the work process; this information can be printed out or saved as an IT archive for later consultation.

At the end of the diagnostic process, the user will have located which mechanical elements are damaged and which need to be replaced, or, if this is the case, will have detected possible deformations in the bodywork.

DsCheck, developed by a group of CESVIMAP professionals, is a unique tool on the market, and its main advantage lies in the fact that it gives exact information about which element is damaged so that only the damaged part need be replaced, instead of the complete suspension system. It will be of great use to claims adjusters and repair shops for alignment, tyres, bodywork and mechanics.



First CESVIMAP OnLine Repair Shop Organization Course



CESVIMAP has increased on-line training possibilities with the development of the new “On-line Repair Shop Organisation Course”, which is given as part of the CESVIMAP Virtual Classroom. This resource, made possible through the use of new technologies, offers a solution to the physical, geographic and timing limitations of traditional training.

Directed at managers, heads of repairs shops, of after-sales and of servicing, and at a wide range of professionals, the training guarantees that the bodywork repair shop, like every other business activity, will adapt itself to the new repair processes, to financial management systems, and also to the manner itself in which to offer this service to clients.

The success of the repair shop as a business is based not only on the processes, but also on people, its human resource. Client loyalty is one the aspects which will guarantee the success of the activity.

Thus, the On-Line Repair Shop Organization Course, which now joins the CESVIMAP virtual domain, offers a 100% on-line methodology over three months, with specialized teaching materials and staff with extensive experience in this type of training.

The On-Line Repair Shop Organization Course comprises various modules which analyse the layout of the repair shop, the operational areas of the repair shop, team deployment, and resource management.

This first on-line course will be given from October to December 2009.

CESVIMAP & COMFORP Prepare the Spanish Representative for Worldskills – The World Professional Training Olympics

CESVIMAP will prepare the Spanish Paintwork representative for Worldskills, the World Professional Training Olympics, which will take place from September 1st – 7th in Canada.

CESVIMAP, in collaboration with the COMFORP Commitment to Professional Training Foundation, has designed a training schedule which will be carried out during the month of June. A team of CESVIMAP engineers and paintwork engineers has developed a tailor-made course for this student, the aim being for him to leave for Canada with the highest possible level of preparation. The contents to be taught cover a theoretical and practical going over of the DuPont range of products, which are those to be used at the competition, and aspects related to the personalization of vehicles.

Tomás Walter Pérez, from the Virgen de la Paloma High School, was the winner of the gold medal in the national competition, in the vehicle paintwork speciality, which was held last April in the Glass Pavilion of the *Casa de Campo*, with the Minister of Education, Ángel Gabilondo, in attendance. A total of 70 students competed in the 18 specialities of Professional Training (Secondary Education), in the practical tests of what will be their future professions: car body repair, furniture building, webpage design, and so on.

As a patron of the Comforp Foundation, CESVIMAP also awards prizes to the finalists in the national competition, comprising a set of books and an annual subscription to the *Cesviteca* multimedia library.

Worldskills is a worldwide organization promoting these Professional Training Olympics; they were first organized in Spain in 1950 and today there are 51 associated countries.

The COMFORP Foundation was established in 2008 to encourage Professional Training, to make the high level of training of the students better known, and to bring educational centres into closer contact with businesses.



Gold-Medal Winner Perez, with the CESVIMAP Team

From IIHS:

Car Size and Weight

Global warming – high fuel costs – economic recession. There are good reasons people buy small cars. They're more affordable, and they use less gas. But the safety trade-offs are clear from new IIHS tests. Three front-to-front crash tests, each involving a microcar or minicar into a midsize model from the same manufacturer, show how extra vehicle size and weight enhance occupant protection in collisions. These Insurance Institute for Highway Safety tests are about the physics of car crashes, which dictate that very small cars generally can't protect people in crashes as well as bigger, heavier models.



**Smart Fortwo and Mercedes C class
40 mph frontal offset crash test**

IIHS didn't choose SUVs or pickup trucks, or even large cars, to pair with the micro and minis in the new crash tests. The choice of midsize cars reveals how much influence *some* extra size and weight can have on crash outcomes. IIHS chose pairs of 2009 models from Daimler, Honda, and Toyota because these automakers have micro and mini models that earn good frontal crashworthiness ratings, based on the IIHS's offset test into a deformable barrier. The Honda Fit, Smart Fortwo, and Toyota Yaris are good performers in this barrier test, but all three are poor performers in the frontal collisions with midsize cars. These results reflect the laws of the physical universe, specifically principles related to force and distance.



**Toyota Yaris – occupant
compartment intrusion after
40 mi/h (64 km/h) frontal offset
test with deformable barrier
(top photo) and after 40 mi/h
(64 km/h) head-on crash with
Toyota Camry (bottom photo)**



**Honda Fit – occupant
compartment intrusion after
40 mi/h (64 km/h) frontal offset
test with deformable barrier
(top photo) and after 40 mi/h
(64 km/h) head-on crash with
Honda Accord (bottom photo)**

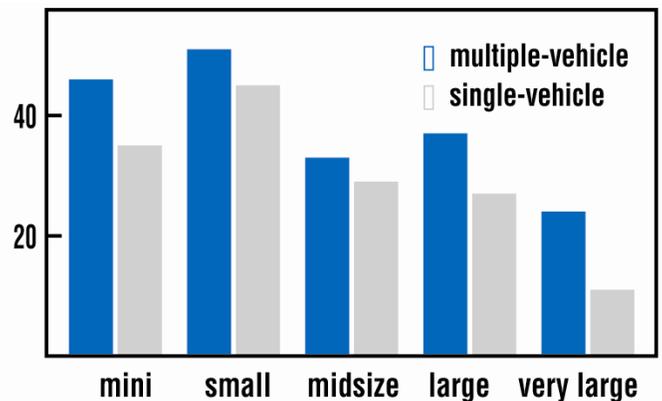


**Smart Fortwo – occupant
compartment intrusion after
40 mi/h (64 km/h) frontal offset
test with deformable barrier
(top photo) and after 40 mi/h
(64 km/h) head-on crash
(64 km/h) head-on crash
Mercedes C class (bottom photo)**

Though much safer than they were a few years ago, minicars as a group do a comparatively poor job of protecting people in crashes, simply because they're smaller and lighter. In collisions with bigger vehicles, the forces acting on the smaller ones are higher, and there's less distance from the front of a small car to the occupant compartment to 'ride down' the impact. These and other factors increase injury likelihood.

Size and weight affect injury likelihood in all kinds of crashes. In a collision involving two vehicles that differ in size and weight, the people in the smaller, lighter vehicle will be at a disadvantage. The bigger, heavier vehicle will push the smaller, lighter one backward during the impact. This means there will be less force on the occupants of the heavier vehicle and more on the people in the lighter vehicle. Greater force means greater risk, so the likelihood of injury goes up in the smaller, lighter vehicle.

Crash statistics confirm this. The death rate in 1-3-year-old minicars in multiple-vehicle crashes on US roads during 2007 was almost twice as high as the rate in very large cars. The death rate per million 1-3-year-old minis in single-vehicle crashes on US roads during 2007 was 35 compared with 11 per million for very large cars. Even in midsize cars, the death rate in single-vehicle crashes was 17 percent lower than in minicars. The lower death rate is because many objects that vehicles hit aren't solid and vehicles that are big and heavy have a better chance of moving or deforming the objects they strike. This dissipates some of the energy of the impact.

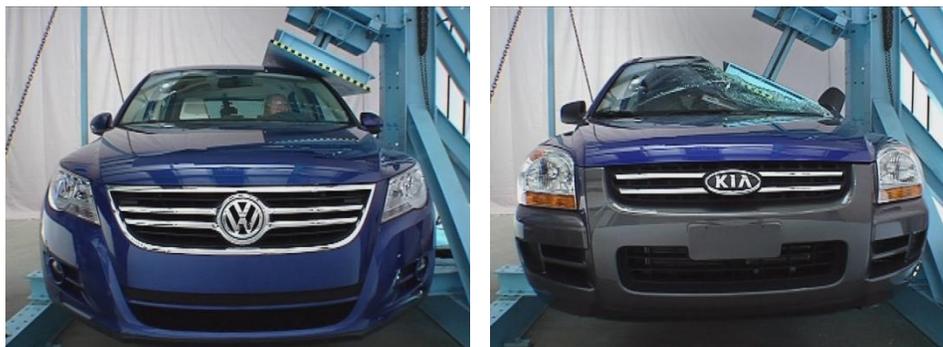


**Driver deaths per million
1-3-year-old cars registered, 2007**

The Institute is using these tests to show consumers downsizing to the smallest vehicles is not the safest way for families to save money and fuel. Instead, engine technology that has been used for more powerful cars could be redirected to achieve good fuel economy. Other strategies could reduce both fuel consumption and traffic injuries. For example, going slower uses less fuel to cover the same distance. The US national maximum speed limit of 55 mph, repealed since the late 1980s, was instituted to conserve fuel but it turned out to be one of the most dramatic safety successes in motor vehicle history. Similarly, roundabouts reduce the idle time at intersections and, at the same time, prevent the most serious intersection crashes. Even better bumpers can save fuel by preventing the unnecessary vehicle damage that occurs in low speed crashes and leads to congestion in commuter traffic.

Roof Strength

The Insurance Institute for Highway Safety has launched a new roof strength rating system to help consumers pick vehicles that will help protect them in rollover crashes. Twelve small SUVs are the first to be put to the test. Only 4 earn the top rating of good. This new rating system is based on IIHS research showing that occupants in rollover crashes benefit from stronger roofs. Vehicles rated good must have roofs that are more than twice as strong as minimum federal safety standards require.



Best and worst performers – good-rated Volkswagen Tiguan (left photo) and poor-rated Kia Sportage (right photo) after applying 15,000 lb (6,804 kg) of crush force

The Volkswagen Tiguan, Subaru Forester, Honda Element, and Jeep Patriot earn good ratings. The scores for the Tiguan and Forester aren't surprising because Volkswagen and Subaru were among the first to ace IIHS crash tests assessing front and side crashworthiness. Other SUVs don't have roofs that are as strong. The Suzuki Grand Vitara, Chevrolet Equinox, Toyota RAV4, Nissan Rogue, and Mitsubishi Outlander are rated acceptable. Roofs on the Honda CR-V and Ford Escape are marginal, and the Kia's is poor.

IIHS anticipates that the new roof strength test will drive improved rollover crash protection the same way frontal offset and side impact consumer test programs have led to better protection in these kinds of crashes. This is important because more than 10,000 people a year are killed in rollovers on US roads. When vehicles roll, their roofs hit the ground, deform, and crush. Stronger roofs crush less, reducing the risk that people will be injured by contact with the roof itself. Stronger roofs also can prevent occupants, especially those who aren't using safety belts, from being ejected through windows, windshields, or doors that have broken or opened because the roof has de-formed. Roofs that don't collapse help keep people inside vehicles as they roll. Any vehicle can roll in a crash, but the problem is worse in some kinds of vehicles than others. About 25 percent of occupant deaths in crashes of cars and minivans involve rolling over. For SUVs, this proportion jumps to 59 percent.

The best way to prevent the deaths is to keep vehicles from rolling over in the first place. Electronic stability control is significantly reducing rollovers, especially fatal single-vehicle ones. When vehicles do roll, side curtain airbags help protect the people inside. Belt use is essential.

In IIHS's roof strength test, a metal plate is pushed against 1 side of a roof at a constant speed. To earn a good rating, the roof must withstand a force of 4 times the vehicle's weight before reaching 5 inches of crush. This is called a strength-to-weight ratio. For an acceptable rating, the minimum required strength-to-weight ratio is 3.25. A marginal rating value is 2.5. Anything lower than that is poor. IIHS research shows that a strength-to-weight ratio of 4 reflects an estimated 50 percent reduction in the risk of serious and fatal injury in single-vehicle rollover crashes compared with 1.5, which has been required under US safety standards.

ROOF STRENGTH

G	VOLKSWAGEN TIGUAN
G	SUBARU FORESTER
G	HONDA ELEMENT
G	JEEP PATRIOT
A	SUZUKI GRAND VITARA
A	CHEVROLET EQUINOX PONTIAC TORRENT
A	TOYOTA RAV4
A	NISSAN ROGUE
A	MITSUBISHI OUTLANDER
M	HONDA CR-V
M	FORD ESCAPE MAZDA TRIBUTE MERCURY MARINER
P	KIA SPORTAGE HYUNDAI TUCSON

G	GOOD
A	ACCEPTABLE
M	MARGINAL
P	POOR

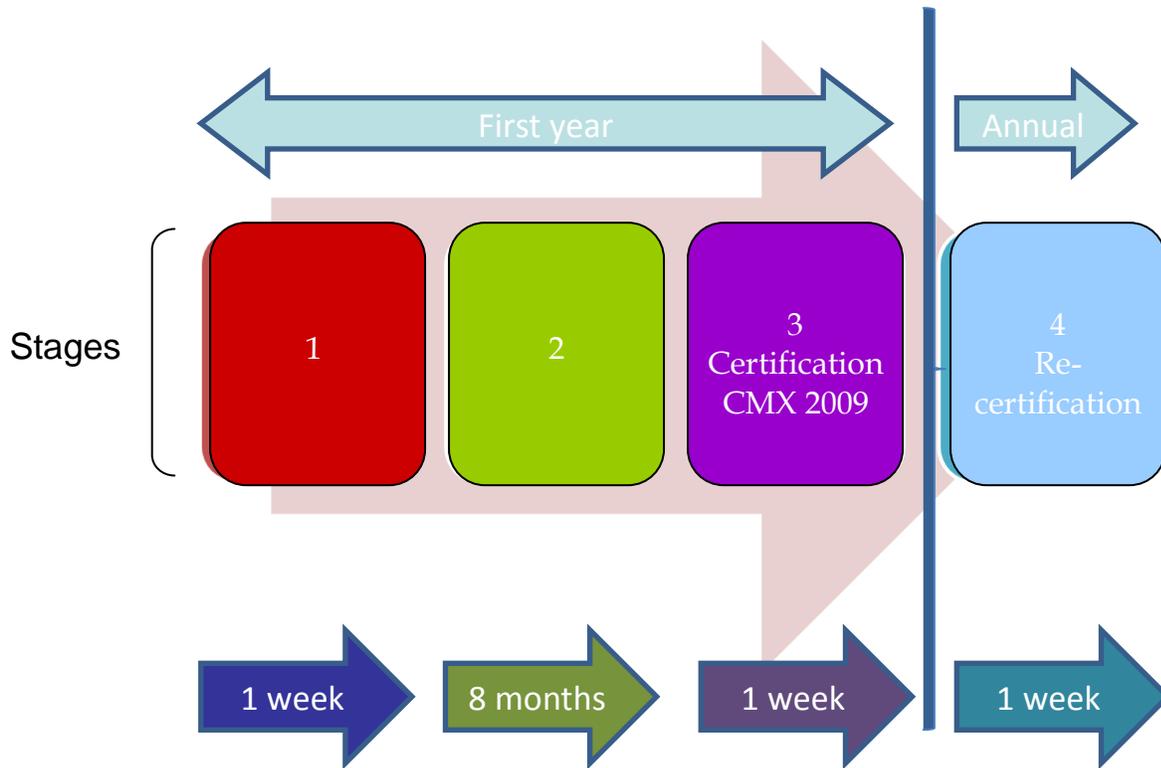
From CESVI Mexico:

Certification CMX 2009

CESVI Mexico, in recognition of market necessities, and the desire to try to help Collision Centers, is launching Certification CMX 2009, which is based on the best practices of the ISO 9000 standard. CMX 2009 certification establishes rules for creating and improving a high quality system in body shops. This system will address customer expectations of quality and service, and will help to reduce operation expenses and warranty work.

CMX 2009 certification covers such aspects as quality system documentation, organizational structure, internal communication, training, continuous improvement, and internal audits.

CESVI Mexico, in order to help body shops to establish their quality systems, is offering the following products:



1.- Diagnosis: During the first week, CESVI Mexico will assess the bodyshop’s quality system, in order to know the actual status and to determinate the work that must be done to obtain certification.

2.- Consulting: An interdisciplinary group from CESVI México will support the bodyshop’s employees, helping establishing a solid quality system, able to handle all aspects of repair (technical, management and service). This stage will take approximately 8 months.

3.- Certification: Once the quality system is ready, CESVI México will make an inspection to verify adherence to standards. If approved, the bodyshop will receive a Certificate, good for one year.

4.- Re certification: CESVI Mexico will conduct annual inspections in the bodyshop to check continuity with the quality system implemented, and, if warranted, will extend the validity of the Certificate for a further year.

With these actions, CESVI Mexico is actively promoting the development of the Car Repair Sector in México.

From CESVI Brazil:

CERTA – Centro de Referencia Técnica Automotiva (Technical Automotive Reference Centre)



Created at the end of 2008, the objective of CERTA is to promote events relevant to the insurance market, envisaging the dissemination of important technical information, through a series of lectures on several themes.

Lectures have already been given on the insurance of security vans, on the insurance of trucks, and on the new legislation which obliges installation of factory-fitted tracking devices and remote immobilization systems by manufacturers. 250 professionals from insurance companies have participated in these events.

The agenda continues with a lecture on the recycling of vehicles, with lectures by CESVI Argentina and CESVIMAP.



A participant asks a question at a recent CERTA event

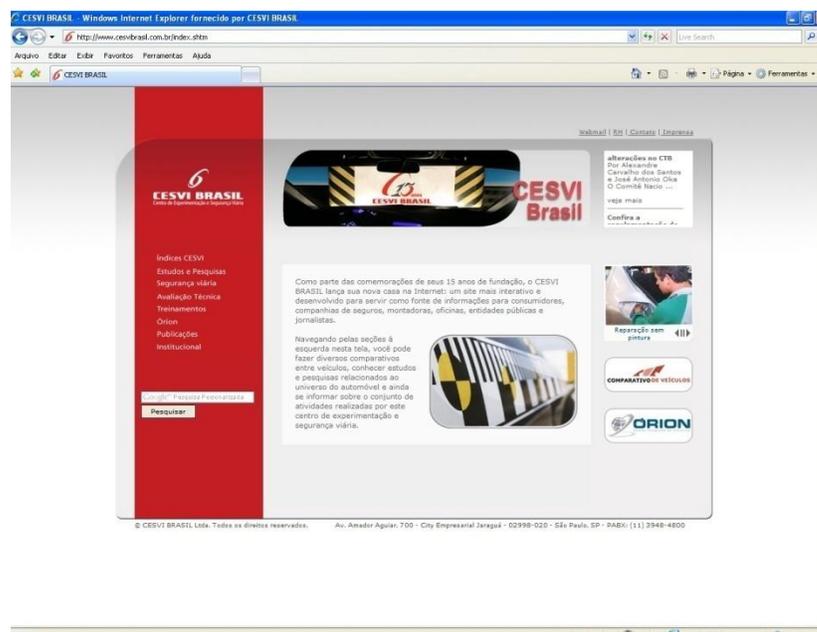
New Site and Electronic Bulletin: e-Crash News

Strengthening its role as a source of information for the sectors of insurance, automotive repair, governmental entities and the press, CESVI has launched the ‘e-CRASH news,’ a monthly bulletin with news on the world of vehicles, with a technical approach on traffic safety, auto repair and monitoring, among other issues.



Besides increasing the reach of its communication, the bulletin enhances the periodicity and form in which CESVI discloses its studies and surveys, making the communication swifter and continuous. The electronic bulletin is sent to professionals from several target audiences related to the research center, bringing them closer to the content available on CESVI BRASIL's site: www.cesvibrasil.com.br.

And, as part of the 15-year celebration of its founding, CESVI BRASIL has also launched its new home on the Internet: a more interactive site, developed to be used as a source of information for consumers, insurance companies, car manufacturers, automotive repairers, public entities and journalists.



IQA – CESVI Environmental Certification



The environmental theme has been widely discussed in various sectors of society. The automotive repair market in Brazil has been slow to adopt to this approach. However, suppliers of equipment, tools and consumables are now beginning to offer products that meet a philosophy focused on sustainability.

Automotive repair activities involve materials and consumables that pollute the air, water and soil. For this reason, repairers need to be made aware of how to deal with these various elements, and conduct their activities without harming the environment.

Due to this concern, and seeking to guide these repairers, CESVI developed a new scope for the certification of repairers, with specific requisites focused on environmental issues in auto bodywork, paintwork, mechanics and administration.

With regard to bodywork, the company will be analyzed on its appropriate disposal of plastic, metal and glass parts, and on materials that should be removed or forwarded to authorized recycling companies, registered by recognized entities.

In paintwork, the company will be analyzed as to whether it has developed a solvent recycling process, using it to clean the paint gun or parts, for example, besides the appropriate disposal of contaminated material, like paint cartons, masking paper and paint booth liner. Some pieces of equipment are compulsory, such as paint booths with a filtering system, with the replacement of the filter according to the manufacturer's specifications, as well as the HVLP paint gun, which saves paint.

From LVK:

The LVK Technical Unit

The key tasks of the LVK Technical Unit include supervision of the interests of the insurance sector, and expert tasks in cooperation with various bodies. In addition to the insurance sector, these include the automobile industry, authorities, training institutions, and international co-operation organizations.

Co-operation with various system suppliers that produce material in support of cost calculation systems and electronic transactions is also high on their list of tasks.

Supervision of interests is based on the creation and support of operating models and forms for mitigating the growing costs of crash repairs. Studies on repairs and technical crime investigation play a significant role in the daily operations of the repair shop. We also provide training courses and various statistical services to meet the needs of the insurance sector.



Personnel of the LVK Technical Unit:

From the left: Painter Leif Eklund, Training Manager Ilkka Lemmelä, Body Mechanic Rauno Kuosa, Technical Director Mika Haakana, Heavy Vehicle Expert Olavi Keränen, Technical Expert Reijo Heikkinen, Technical Manager Heimo Jokinen, and Assistant Marianne Järvenranta.



The Technical Unit in a simulated elk test, supervised by a training manager



Body straightening in the research repair shop; (pictured: Body Mechanic Rauno Kuosa)



Heavy vehicle training day for loss assessors

Website Report: Interest in the RCAR Website Stays Consistent



www.rcar.org Research Council for Automobile Repairs

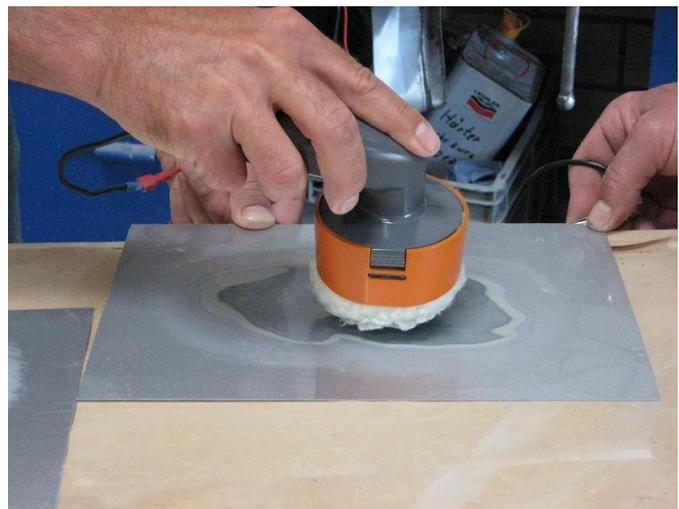
The total number of 'visits' to our website remains fairly consistent, ranging from 3,490 in January, to 3,441 in February, to 3,509 in March, to 3,005 in April, to 3,754 in May, while the number of 'total pages visited' during that same period ranged from 7,293 in January, to 7,388 in February, to 7,368 in March, to 6,503 in April, to 6,664 in May. The 68,352 total hits recorded in March represents another new record for the RCAR Website.

From KTI:

Subsequent Zinc Plating During Body Repair

During the process of body damage repair, the initial corrosion protection applied at the time of vehicle production may dwindle away.

Without adequate safety precautions, repaired parts of the car body are exposed to increased corrosion hazard. By means of subsequent zinc plating during the body repair process, corrosion damage can be avoided.



In a recent study performed by KTI, the suitability of subsequent zinc plating during body repair was analysed. During the galvanization process, an absorptive textile as well as the anode were plunged into the electrolyte, coating the bare steel plate surface evenly. This subsequent zinc plating process requires less time expenditure, i.e. an entire wheel house can be treated within a few minutes. The electrolyte dissolves remaining corrosion residues, cleaning up the metal surface.

The protective effect of subsequent zinc plating can be observed in the case of already-repaired sheets, where the surface coating system was damaged inter-alia, either by stones or by means of scratches. When directly exposed to salt (e.g. de-icing road salt in winter), the zinc layer decomposes within a few hours. Subsequently galvanized surfaces (like primed surfaces) must therefore be protected against moisture and other aggressive media by means of proper coating.

Subsequently-applied zinc layers are compatible with different filler materials (tin and filler). However, ultra-high-strength steel parts (e.g. the B-pillar) should not be galvanized retrospectively.

For more information, please contact Helge Kiebach at hkiebach@k-t-i.de.

From JKC:

JKC Presentations at the JSAE Spring Congress



The Location of the Spring JSAE Conference in Yokohama

'JSAE' stands for The Society of Automotive Engineers of Japan. JSAE was founded on February 1, 1947. Its aims are to expand the industrial economy, and improve the quality of people's lives by furthering the development of automobile science and technology. Today, with the growth of Japan's automobile industry, membership has swelled to close to 35,000 members, and JSAE is recognized as one of the leading scientific societies in Japan.

JSAE holds two Congresses annually, one in the spring and one in the autumn. At these conventions, the latest research results on automobile and other related technologies are presented, together with an automobile engineering exposition. This year, the Spring Congress was held from May 20th through May 22nd in Pacifico Yokohama. About 4,000 people attended the paper presentation session, and 52,000 people attended the engineering exposition.

JKC participated in this Congress, making two technical presentations on May 20, 2009.

The first one was titled "Scattering Phenomenon of Broken Parts in Traffic Accident (First Report)," presented by Dr. Mitsunobu Fujita, senior researcher of our Repair Time Department. Investigators including police officers sometimes determine the collision point based only on the stop positions of broken parts. Few studies have been conducted to clarify the mechanism of such phenomena. The presentation explained the clarified mechanism and the relation between collision points and stopped points of broken parts, focusing on a one-dimensional car-to-car collision.



The Floor Guide for the Spring JSAE Conference

The second presentation was titled “An Examination for Reduction of Repair Cost by Improvement of Damage-ability and Repair-ability,” a joint research effort undertaken by Mr. Masatoshi Saito, Manager of our Technical Research Dept., and Mr. Satoshi Mizukami, Assistant Manager of the same department. The presentation was made by Mr. Saito. Collision tests were conducted on 16 new models of passenger vehicles in our collision test facility. The variance in repair costs caused by structural differences was analyzed in order to determine the potential effective reduction in total accident repair costs. This presentation provided examples of the differences, and some ideas for improvement based on the knowledge obtained through the analysis.

Many people, from automakers, parts makers, insurance companies, universities, governmental agencies, etc. attended both presentations, which caught on with the audience, as there were lively exchanges of questions and opinions.



Dr. Mitsunobu Fujita, PhD



Mr. Masatoshi Saito

On the Move:

Mika Haakana has been appointed as the new Technical Director for the Finnish Traffic Insurance Centre LVK, formerly known as VAT. Originally educated as a teacher, Mika has spent the past twenty-one years in the insurance and car industries. He can be reached at mika.haakana@vakes.fi.

For more on the activities of the LVK Technical Unit, see page 38.



Mika Haakana, recently appointed Technical Director of LVK

The RCAR Network:

AZT Germany	www.allianz-azt.de
Centro Zaragoza Spain	www.centro-zaragoza.com
Cesvimap Spain	www.cesvimap.com
Cesvi Argentina	www.cesvi.com.ar
Cesvi Brazil	www.cesvibrasil.com.br
Cesvi Colombia	www.cesvicolombia.com
Cesvi France	www.cesvifrance.fr
Cesvi Mexico	www.cesvimexico.com.mx
CESTAR Italy	www.cestar.it
LVK Finland	www.liikennevakuutuskeskus.fi
Folksam Auto Sweden	www.folksamauto.com
ICBC Canada	www.icbc.com
IIHS USA	www.iihs.org
KTI Germany	www.k-t-i.de
MPI Canada	www.mpi.mb.ca
JKC Japan	www.jkcenter.co.jp
KART Korea	www.kidi.co.kr
MRC Malaysia	www.e-mrc.com.my
FNH Norway	www.fnh.no
IAG Australia	www.iagresearch.com.au
State Farm USA	www.statefarm.usa
Tech-Cor USA	www.tech-cor.com
Thatcham UK	www.thatcham.org
AXA-Winterhur Switzerland	www.winterhur.com

Dates for your Diary:

IBIS 2009, Hotel InterContinental, Berlin, Germany, June 10-12, 2009
Details: www.ibisworldwide.com.

21st International Technical Conference on the Enhanced Safety of Vehicles (ESV), International Congress Centre, Stuttgart, Germany, June 15-18, 2009
Details: www.esv.nhtsa.dot.gov, www.esv2009.com

CESVI Brazil's 15th Anniversary CESVI plant, Sao Paulo, Brazil, June 25, 2009
Details: www.cesvibrasil.com.br

Avila Automotive Forum
Avila, Spain
July 8-10, 2009
Details: www.foroavilaautomocion.es

Annual RCAR Conference , Chicago, USA, Sep 13-18 2009, hosted by Allstate/State Farm