

PARLIAMENT OF NEW SOUTH WALES



STAYSAFE Committee

THE CRASH TESTING OF REPAIRED MOTOR VEHICLES

Further report of an inquiry into motor vehicle smash repairs under the Insurance Australia Group (NRMA Insurance) Preferred Repairer Scheme, and its implications for roadworthiness, crashworthiness, and road safety

(STAYSAFE 71)

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TERMS OF REFERENCE

The resolution of the Legislative Assembly

From the Proceedings of the Legislative Assembly of New South Wales, Thursday 13 October 2005:

That this House requests the STAYSAFE Committee to inquire into motor vehicle smash repairs under the Preferred Repairer Scheme operated by the NRMA and IAG Insurance, and the risk to safety arising from:

- (1) Repairers quoting for jobs by inspecting photos of damaged vehicles rather than physically inspecting the damaged vehicle.
- (2) Financial penalties if damage is later uncovered that was not apparent through the internet photographs, possibly leading to cost cutting and unsafe repair practices.
- (3) Use of second hand vehicle parts, further compromising safety.
- (4) The NRMA and IAG employing unqualified smash repair assessors to photograph and help administer vehicles for repair.

The STAYSAFE Committee

The general terms of reference of the STAYSAFE Committee are as follows:

- (1) As an ongoing task, the Committee is to-
 - (a) monitor, investigate and report on the road safety situation in New South Wales; and
 - (b) review and report on counter measures aimed at reducing deaths, injuries, and the social and economic costs to the community arising from road accidents.

Without restricting the generality of the foregoing, the following are to be given urgent consideration -

- (i) countermeasures aimed at traffic accidents associated with alcohol and other drugs.
- (ii) traffic law enforcement measures and their effectiveness.
- (iii) a review of human factors affecting traffic accidents, especially those relating to driver and rider licensing requirements and standards.
- (iv) the social and economic impact of deaths and serious debilitating injuries resulting from traffic accidents.
- (v) heavy vehicle safety.

CHAIRMAN'S FOREWORD

Paul Gibson MP
Chairman

This report of the STAYSAFE Committee documents the crash testing of a motor vehicle that had been repaired to an insurer's standards after being involved in a severe road crash. The report also reviews relevant literature on 'crash repair tests' of motor vehicles.

This report satisfies a recommendation by the STAYSAFE Committee in December 2005 for the publication of recent crash test results from repaired motor vehicles:

RECOMMENDATION 21: The Motor Traders Association, Autoliv Australia, and other groups and organisations involved in the recent crash testing of repaired motor vehicles publish the full data analyses and report on each vehicle tested as soon as possible (from STAYSAFE 66, 2005).

This report is the third occasion that the STAYSAFE Committee has reported under the inquiry to examine the operation of the Insurance Australia Group (NRMA Insurance) Preferred Repairer Scheme, with particular reference to safety, roadworthiness and crashworthiness issues. The earlier reports prompted significant changes to practices in the claims management process for NRMA Insurance, and a restructure of NRMA Insurance's senior executive management team. The Committee is pleased to note that there are clear signs of an improvement in NRMA Insurance business operations, with renewal rates at or near record highs in its core market of New South Wales comprehensive car insurance. New business volumes also appear to have improved, again in the area of New South Wales comprehensive car insurance. This recovery is, in great part, likely due to the findings and recommendations made in the Committee's earlier reports, which have led to a resolution of the dispute between NRMA Insurance and motor vehicle smash repairers (and the Motor Traders Association as their peak representational body) and a reduction in associated adverse publicity.

The STAYSAFE Committee looks forward to the continued rebuilding of the relationships between NRMA Insurance and motor vehicle smash repairers, as there remains scope for improved efficiencies in claims management while retaining a strong focus on ensuring the safety, roadworthiness and crashworthiness of vehicles which undergo repair after a road crash.

In earlier reports arising from this inquiry, the STAYSAFE Committee noted that the inquiry had caused some confusion to those agencies and organisations that deal with the Committee on a regular basis. The Committee suggested that this was because issues associated the motor vehicle smash repair industry and the repair of damaged motor vehicles to a roadworthy (and crashworthy) status have not, in the past, been

seen as relevant matters for road safety workers. This remains, unfortunately, a common view today—for instance, the Committee proposed a paper discussing the issues associated with the repair of crashed motor vehicles to the recent 2006 Australasian Road Safety Research, Policing and Education Conference, but the proposal was not accepted. The Conference is an annual event that provides an opportunity for road safety practitioners, researchers and police to meet and discuss the latest road safety activities throughout Australasia. The Committee looks forward to receiving the formal response of the New South Wales government to the findings and recommendations arising from the inquiry.

Acknowledgments

I continue to be tremendously grateful for the diligence and care taken by my colleagues on the STAYSAFE Committee, who undertook the task of examining the operation of the Insurance Australia Group (NRMA Insurance) Preferred Repairer Scheme in the context of road safety, roadworthiness and crashworthiness.

On behalf of my Committee colleagues, I thank those involved in the crash testing of a motor vehicle—a Ford Fairmont Ghia AU III—that had been repaired to an insurer's standards after being involved in a severe road crash. The detailed results of this crash test are published in this report. I thank all involved for their efforts.

I acknowledge the assistance provided by Insurance Australia Group in identifying a promotional video produced by Allianz about a crash repair testing methodology.

Again, I wish to thank my Committee Manager, Mr Ian Faulks, for the exemplary manner in which he has conducted the administrative, procedural and research activities required of this inquiry, and for the way he has prepared this report. I thank also Mr Jim Jefferis and Ms Elayne Jay, Senior Committee Officers, Ms Annette Phelps, Committee Officer, and Ms Millie Yeoh, Assistant Committee Officer, for their administrative assistance.

EXECUTIVE SUMMARY

This report documents the crash testing of a motor vehicle—a Ford Fairmont Ghia AU III—that had been repaired to an insurer's standards after being involved in a severe road crash. The crash test was a frontal offset barrier test, conducted in accordance with the protocols for the Australian New Car Assessment Program, and the crash data were compared to the results of a crash test of a new Ford Falcon Forte AU II motor vehicle in 2001.

The report also reviews relevant literature on 'crash repair tests' of motor vehicles, including:

- a series of crash tests of repaired motor vehicles (Volkswagen, Audi) conducted at the Allianz Centre for Technology (AZT) facility in Germany; and
- low speed crash testing.

In July 2005 Insurance Australia Group commenced a new scheme for motor vehicle smash repairs in parts of New South Wales—metropolitan Sydney, the Hunter, and later in the Illawarra and Central Coast—marketed under the NRMA Insurance and CGU brands. Under the scheme, an Insurance Australia Group assessor places a written description detailing observable damage to a motor vehicle, and electronic images of the damage, on a dedicated website and allows approved smash repairers to engage in competitive bidding for an allocation to carry out repairs.

The web-based repair management system is intended to streamline bids for repairs to motor vehicles with minor or superficial damage—termed 'cosmetic damage' by Insurance Australia Group—and not extend to major damage or structural damage. Insurance Australia Group claimed that the new system is easier and more convenient for customers seeking to have work done on their motor vehicles, and will ensure increased competition within the smash repair industry, and allow for greater claims management efficiency. The introduction of the new system for motor vehicle smash repairs by Insurance Australia Group was associated with immediate public concern. In general, there were accusations that the new Insurance Australia Group system for motor vehicle smash repairs was anticompetitive and would drive smash repairers out of business, lower the quality of repairs on damaged vehicles by encouraging smash repairers to take short cuts and use inferior parts to win business, and allow unsafe vehicles to be returned to New South Wales roads. These concerns were reflected in repeated questions, statements and debates in New South Wales Parliament. Ultimately, the New South Wales Legislative Assembly resolved that a Parliamentary inquiry was necessary to examine Insurance Australia Group's web-based repair management system and its Preferred Repair System.

At the request of the New South Wales Legislative Assembly in October 2005, STAYSAFE examined motor vehicle smash repairs under the Insurance Australia Group (NRMA Insurance) Preferred Repairer Scheme, and assessed specific safety, or risk issues, namely:

- the web-based repair management system introduced by Insurance Australia Group, where repairers submit quotes for jobs based on a written scope of

works prepared by an assessor employed by Insurance Australia Group and inspecting electronic images of damaged motor vehicles, rather than physically inspecting the damaged vehicle;

- if cost cutting and unsafe repair practices are associated with Insurance Australia Group's imposition of financial penalties if damage to a motor vehicle is later uncovered that was not apparent through the internet photographs;
- if safety is compromised by the use of second hand parts in the repair of motor vehicles; and
- the qualifications needed by assessors employed by Insurance Australia Group to effectively examine, document and photograph damage to motor vehicles, and their role in managing the repair process to a damaged motor vehicle.

STAYSAFE found that the web-based repair management system introduced by Insurance Australia Group was an unsafe system in its current form and operation. A striking feature of the inquiry was the inability of Insurance Australia Group to provide any definitive research documentation regarding its consideration of potential safety issues associated with the web-based repair management system and its Preferred Repair System prior to the commencement of the system. STAYSAFE found that the development of appropriate safety policy and regulatory frameworks for the smash repair industry and the motor vehicle insurance sector has lagged, and it appears that there can be a wide disparity between what is understood about the smash repair industry by motor vehicle insurers and government agencies, and the leading edge exponents of modern motor vehicle smash repair techniques, processes and methods.

STAYSAFE has made a number of recommendations addressing the crashworthiness of repaired motor vehicles. As indicated in the opening paragraphs, this report documents the crash testing of a motor vehicle that had been repaired to an insurer's standards after being involved in a severe road crash, and also reviews relevant literature on 'crash repair tests' of motor vehicles.

Chapter One—

INTRODUCTION

1.1 In 2005 the New South Wales Legislative Assembly resolved that STAYSAFE should inquire into motor vehicle smash repairs under the Insurance Australia Group (NRMA Insurance) Preferred Repairer Scheme:

That this House requests the STAYSAFE Committee to inquire into motor vehicle smash repairs under the Preferred Repairer Scheme operated by the NRMA and IAG Insurance, and the risk to safety arising from:

- (1) Repairers quoting for jobs by inspecting photos of damaged vehicles rather than physically inspecting the damaged vehicle.
- (2) Financial penalties if damage is later uncovered that was not apparent through the internet photographs, possibly leading to cost cutting and unsafe repair practices.
- (3) Use of second hand vehicle parts, further compromising safety.
- (4) The NRMA and IAG employing unqualified smash repair assessors to photograph and help administer vehicles for repair.

1.2 The terms of reference are quite clear. First, and generally, STAYSAFE is to examine and report on motor vehicle smash repairs under the Insurance Australia Group (NRMA Insurance) Preferred Repairer Scheme. In doing so, STAYSAFE has been mindful to review prior relationships between motor vehicle smash repair industry and Insurance Australia Group and the earlier insurance arm of the mutual organisation, the National Roads and Motorists' Association (NRMA), as well as to review the relationships between the motor vehicle smash repair industry and other motor vehicle insurers active in the New South Wales market.

1.3 Second, STAYSAFE is required to assess and report on specific safety, or risk issues, namely:

- the web-based repair management system introduced by Insurance Australia Group, where repairers submit quotes for jobs based on a written scope of works prepared by an assessor employed by Insurance Australia Group and inspecting electronic images of damaged motor vehicles, rather than physically inspecting the damaged vehicle;
- if cost cutting and unsafe repair practices are associated with Insurance Australia Group's imposition of financial penalties if damage to a motor vehicle is later uncovered that was not apparent through the internet photographs;
- if safety is compromised by the use of second hand parts in the repair of motor vehicles; and
- the qualifications needed by assessors employed by Insurance Australia Group to effectively examine, document and photograph damage to motor vehicles, and their role in managing the repair process to a damaged motor vehicle.

General findings from the inquiry

1.4 STAYSAFE has reported on matters subject to this inquiry on two previous occasions:

- STAYSAFE 66 (2005). Repairing to a price, not a standard: Report of an inquiry into motor vehicle smash repairs under the Insurance Australia Group (NRMA Insurance) Preferred Repairer Scheme and its implications for roadworthiness, crashworthiness, and road safety.
- STAYSAFE 68 (2006). Improving the health of the motor vehicle insurance and smash repair industries: Shifting the focus to public safety—Report of a review of progress in implementing the findings and recommendations of an inquiry into motor vehicle smash repairs under the Insurance Australia Group (NRMA Insurance) Preferred Repairer Scheme.

1.5 In brief, STAYSAFE found there to be little comprehensive data that provides a clear overall picture of the smash repair industry in New South Wales. While STAYSAFE has been able to source some limited data, it does not provide a clear assessment of how the industry has changed over time. The Productivity Commission (2005) felt that ongoing rationalisation in the motor vehicle smash repair industry can be expected. Most importantly, the process of rationalisation reflects general industry-wide actions by motor vehicle insurers to reduce cost, primarily as a means of enhancing shareholder returns but also to contain premiums for policy holders. Other factors affecting rationalisation in the motor vehicle smash repair industry include increased capital requirements due to changes in vehicle technology; a possible decline in the incidence and severity of motor vehicle crashes; more stringent occupational health and safety and environmental requirements, operating on smash repair businesses; and difficulties in attracting skilled labour.

1.6 STAYSAFE held that the cornerstones for a successful future for the motor vehicle smash repair industry in New South Wales were:

- a strong and mutually respectful relationship between motor vehicle smash repairers and the motor vehicle insurance sector;
- productivity improvements;
- technical updating; and
- improving skills.

Transport infrastructure in New South Wales, particularly in rural and regional areas, makes it increasingly difficult for smash repairers to remain competitive, and that this is unlikely to improve in any significant way over the next few years. Even while the motor vehicle smash repair industry is improving productivity, more needs to be done to address the issues of recruitment and training into the smash repair industry to support technological updates as new motor vehicles, utilising new and different materials and requiring different repair methods, come into the Australian market.

1.7 STAYSAFE called for combined action to promote the development of better regulation, a coherent 5-10 year road map for the motor vehicle smash repair industry and the motor vehicle insurance sector, and an integrated approach to safety. More investment needs to be made in research and development regarding safe, effective

and efficient smash repairs to damaged motor vehicles. This investment must come from government (as the regulator), the motor vehicle insurance sector, and the motor vehicle smash repair industry.

Crashworthiness of repaired motor vehicles

1.8 In the STAYSAFE 66 (2005) report, STAYSAFE noted comments by the Productivity Commission (2005):

Several participants (including vehicle owners) reported instances of poor repair workmanship, in some cases to the point at which the vehicles were dangerous to drive. Indeed, some participants argued that repair quality in the industry has deteriorated such that crash testing of a selection of repaired vehicles is now needed to demonstrate the safety or otherwise of repaired vehicles. They attributed this deterioration to insurer practices. However, insurers argued that their practices are designed to ensure quality repairs. RACQ said:

... quality repairs are by definition safe repairs. Safety is paramount as part of the quality assurance mechanism ...

Accident statistics shed little light on the role of vehicle repairs in accidents. Consequently, the remaining evidence of vehicles that are poorly or unsafely repaired is all anecdotal. That does not mean it should be dismissed or that it does not provide information relevant to this inquiry. (p.97)

1.9 STAYSAFE asked if Insurance Australia Group had conducted any crash tests on repaired motor vehicles to assess structural integrity and crashworthiness. Mr Strong, Chairman of Insurance Australia Group, indicated that no such testing had been conducted:

Mr GIBSON (CHAIRMAN): ... You haven't done a crash test on a car that has been repaired, which is the best research you can do.

Mr STRONG: No, we generally crash new cars, actually, for quality assessment.

Mr GIBSON (CHAIRMAN): That's right but seeing we are talking about smash repairs and it is such a big part of business today, one would have thought that you may have done crash tests. There have been plenty of cars that have been brought back because they could not be repaired or whatever and it would have been great to do a crash test on these cars to see whether the parts that you are using, the second-hand parts and parallel parts that you know nothing about, if you are using parallel parts, to see what quality of the repair and second-hand parts you are using.

(Mr James Strong, Transcript of evidence, Wednesday 7 December 2005)

1.10 During the inquiry, STAYSAFE noted media reports of a crash test of a repaired motor vehicle conducted at AutoLiv Australia, a company that produces and carries out crash tests for motor vehicle manufacturers and component manufacturers and also manufactures air bags and seat belts. The crash test was conducted on 15 November 2005. The test was an equivalent test to the Australian New Car Assessment Program—ANCAP test, reproducing the test of the new vehicle as manufactured for the purposes of ANCAP star ratings. The purpose of the crash test was to determine whether the repaired motor vehicle would provide the same protection to occupants as it had been assessed in the original new condition. Reports of this crash test indicated that the crashworthiness of the motor vehicle appeared likely to have been compromised by the repairs effected to the vehicle. The results of this crash test had not been released publicly. STAYSAFE therefore recommended that the Motor Traders Association, Autoliv Australia, and other groups and organisations involved in the recent crash testing of repaired motor vehicles publish the full data analyses and report on each vehicle tested as soon as possible.

**RECOMMENDATION 21: The Motor Traders Association, Autoliv Australia, and other groups and organisations involved in the recent crash testing of repaired motor vehicles publish the full data analyses and report on each vehicle tested as soon as possible.
(From: STAYSAFE 67, 2005)**

Chapter Two—

THE CRASH TESTING OF REPAIRED MOTOR VEHICLES—FRONTAL BARRIER OFFSET TEST OF A PREVIOUSLY CRASHED AND REPAIRED FORD FAIRMONT GHIA AU III

2.1 This chapter reports the results of a crash repair test conducted at the Autoliv Australia facility. AutoLiv Australia is a company that carries out crash tests for motor vehicle manufacturers and component manufacturers, and also manufactures air bags and seat belts. The crash repair test was conducted on 15 November 2005. The test was a frontal barrier offset test, equivalent to the Australian New Car Assessment Program (ANCAP) test. The test involved the crash testing of a Ford Fairmont Ghia AU III that had been involved in a severe road crash previously and had been repaired at the relevant insurer's direction . The purpose of the crash test was to determine whether the repaired motor vehicle would provide the same protection to occupants as it had been assessed in the original new condition.

2.2 STAYSAFE had become aware of significant concerns about the preliminary results of the crash test of the repaired motor vehicle conducted at AutoLiv Australia following media reports in November and December 2005. In the STAYSAFE 66 (2005) report, it was noted:

"... STAYSAFE understands that there appeared to be catastrophic failure of repaired structural components associated with crumple zones that led to a high likelihood that serious lower limb injury would have been caused to the driver of the motor vehicle. In short, the crashworthiness of the motor vehicle appears likely to have been compromised by the repairs effected to the vehicle. The results of this crash test have not been released publicly, ..."

2.3 STAYSAFE recommended that the Motor Traders Association, Autoliv Australia, and other groups and organisations involved in the recent crash testing of repaired motor vehicles publish the full data analyses and report on the vehicle tested as soon as possible (Recommendation 21, STAYSAFE 66, 2005).

2.4 Subsequently, the report of the frontal barrier offset test of the previously crashed and repaired Ford Fairmont Ghia AU III was forwarded to STAYSAFE. This report is reproduced in full in the following pages.

Chapter Three—

THE CRASH TESTING OF REPAIRED MOTOR VEHICLES—GENERAL COMMENTS

3.1 This chapter provides an overview of research identified by STAYSAFE regarding the crash testing of repaired motor vehicles. STAYSAFE has found that there is a limited, but nonetheless significant, research literature on 'crash repair tests' of motor vehicles, including:

- crash repair tests—a series of crash tests of repaired motor vehicles (Volkswagen, Audi) conducted at the Allianz Centre for Technology (AZT) facility in Germany; and
- low speed crash testing.

3.2 STAYSAFE explored the issue of the crash testing of repaired motor vehicles with representatives of Insurance Australia Group in a public hearing on 27 March 2006:

Hon. RICK COLLESS (STAYSAFE): Regarding your comments about deciding on whether a deformed vehicle has the part replaced or repaired, what sort of research has gone into making that decision? Is there any crash testing done, for example?

Mr McDONALD: To crash test a repaired vehicle is a simplified solution because you have to decide first of all what is a representative car to crash test. Every car's damage is different. You cannot say you have 100 Camrys all with front-end structural damage; every one of them will be different in some way. So which one do you use as being the most representative one that has gone another half an inch or half an inch less or that sort of thing?

Mr GIBSON (CHAIRMAN): But the outcome should be the same though, should it not?

Mr McDONALD: The outcome should be the same and manufacturers generally—people like Toyota and Ford and Holden publish body repair manuals where they recommend where structural repairs are to take place and they will produce a cutting point, and there is obviously a logical point on the structural part so that it can be replaced. Or the option is to replace the whole structural component back to the car.

Hon. RICK COLLESS (STAYSAFE): Are you aware of a crash test that was done by Autoliv (Australia) Pty Limited where the test result summary stated,

"Vehicle crush data measurements and crash dummy response data indicate that the repaired vehicle demonstrated an increased risk of injury to the occupants due to reduced energy absorption characteristics caused by the failure of the instrument panel", et cetera.

That is pretty worrying stuff.

Mr McDONALD: I have never seen that report, I only know what I have seen on television, and it was made quite public that that was an Allianz repair in Melbourne where it was a choice of repairer in that program. I have not seen anything definitively released in the public domain to enable us to make any calculations. I would point out to the Committee that that particular model Falcon did not do particularly well in the original Australian New Car Assessment Program [ANCAP] test when it was a new complete car and it had a relatively low ANCAP score. I do not know what the actual results are, only a fairly generalised, rather sensationalist couple of *Today Tonight* stories about it that I have seen on television.

And later:

Hon. RICK COLLESS (STAYSAFE): I refer to your comments a few moments ago regarding the deformation characteristics of new cars versus repaired cars. I think you said that it is very difficult to ensure that the precise deformation characteristics exist on the car that has been repaired, compared to a new car. Am I correct?

Mr McDONALD: Without physically crashing every car that is repaired, yes.

Hon. RICK COLLESS (STAYSAFE): Would not make sense, then, for buyers of second-hand cars to know that the car that they are buying may not have the same crash characteristics as a new car?

Mr McDONALD: Do you mean have some sort of notation?

Hon. RICK COLLESS (STAYSAFE): In the Committee's recommendations there was a suggestion that a register should be kept of vehicles that have had major structural repairs done to them so that people could determine whether or not that might be a safe car to drive.

Mr McDONALD: Again, we are relying on the integrity and the skills of the repair industry. In the example of, say, wrecks returning to the road, there is already a process in place where written-off—

Hon. RICK COLLESS (STAYSAFE): These cars may drive very well on the road but they just do not have the same crash characteristics as the original vehicle.

Mr HAWKER: As the Hon. Rick Colless said, a very large percentage of those cars will be repaired appropriately and be just as safe as a new car. If a small proportion of them have inadvertently been poorly repaired and a car involved in an accident has been structurally repaired, you are going to change the perception to a view that they are all substandard. I think that would create a public relations issue for the used-car market, which would be a significant problem and would force up dramatically a lot of prices. I understand where you are coming from. What I would be looking [for is] to try to find another solution to that problem if we could.

Mr GIBSON (CHAIRMAN): Crash testing would do that, would it not, show the way?

Mr HAWKER: No, because the majority of repairs will meet all crash test outcomes. A huge amount of testing of repaired motorcars internationally has demonstrated that a repaired motorcar is just as roadworthy as a brand new car.

Mr GIBSON (CHAIRMAN): Sorry to interrupt, but here is the first report and it is supposed to be a world first. It says that that is not the case. That was on a new car that was repaired.

Mr HAWKER: There is quite a lot of information out of the United States of America about cars that have been crashed by the Highway Safety Institute over there. They have a whole a lot of information on that.

Mr McDONALD: Various people have conducted crash tests on previously repaired cars.

Mr GIBSON (CHAIRMAN): If you have that, will you provide that information to the Committee?

Mr McDONALD: I may be able to obtain some information from one of other overseas counterparts. But the question remains that you cannot pick a representative damage.

Mr GIBSON (CHAIRMAN): We understand that.

Mr McDONALD: It is virtually impossible. Even doing an ANCAP-type test, which is certainly not repairable, into a fixed barrier at 64 km/h you will get dramatic differences sometimes between the way individual components behave. This happens in every accident with two cars, just because they might have a couple of spot welds a little bit different to the other car, or the metal fitness might vary from one supplier to another.

Crash repair tests conducted by Allianz Zentrum für Technik (Allianz Centre for Technology, AZT)

3.3 Subsequently, Insurance Australia Group forwarded a promotional video published by Allianz in March 2000. The text of the commentary to the video is reproduced below:

COMMENTATOR: Everyday, thousands of cars are brought into repair shops after being damaged in an accident. While this damage looks pretty dramatic to the driver, it's hardly ever a problem for the expert.

The Allianz Centre for Technology (AZT)—just like the car repair business—demonstrated a good 25 years ago that a specialised repair shop can do an excellent job in fixing damage of this kind, both technically and visually. The advent of new materials and modern safety systems such as air bags and belt pretensioners has prompted the AZT to take another look at the effects of accident damage repair.

We asked ourselves the question: "How do vehicles behave in terms of deformation, triggering of restraint systems, and repair costs, after repairs following one accidents when they're involved in a second accident?"

Reproducible damage was caused to a new vehicle in an AZT crash repair test at a collision speed of 15 km/h. Accidents of this degree of severity not only result in external damage but also deformation of longitudinal engine members, which have a vital effect on the safety of a vehicle. To obtain a technically flawless repair the vehicle was placed on a straightening bench and the longitudinal member was straightened out. Following this, the badly deformed tip of the member was removed and replaced with a new part.

When the repair was finished, the same vehicle was put through another AZT crash repair test. The second time round the outward appearance of the damage was identical to that of the damage sustained by the vehicle when it was new. The previously repaired longitudinal member had the same deformation profile as after the first crash test in its original condition. As in the first repair, the longitudinal member was again straightened out on the straightening bench and its buckled tip was replaced with an original part.

The test results prove that there is no difference between the deformation and damage absorption of the new vehicle and those of the same vehicle when repaired. The minimal fluctuations are within the normal range for series production. The same holds true for the repair work. The working time for the first repair was 22.5 hours, and for the second repair 21.1 hours. The repair costs were DM 4,900 after the first, and DM 5,100 after the second, crash.

The test series was complemented by crash repair tests on a Golf TDI and a VW Bora, and with these the deviations between the original condition and the condition after professional repairs were also marginal, as they were in a further test carried out on a Mercedes C180. This not only applied to the deformation behaviour but also to the repair cost.

High speed crash tests with the twice repaired VW Golf and Bora, carried out at 56 km/h in accordance with the EU directive, showed no deviations compared with series vehicles, either in deformation characteristics or the triggering of air bags.

The following conclusion can then be drawn from the tests. Even in a second accident, the professional repair of accident damage does not affect deformation behaviour, repair costs, and (a crucial point) passive safety. Professionally repaired is as safe as new.

3.4 STAYSAFE was quickly able to document that for over thirty years the Allianz Center for Technology has worked on a crash repair test to assess the safety performance of crash-damaged motor vehicles after repair, as well as contributing to work such as the sectional repair technique, the partial painting and touch-up system, proposals on spare-part design and repair methods, and encouragement for the automobile industry to design, among other things, energy-absorbing and more repair-friendly bumper systems and longitudinal members.

3.5 However, despite the methodology being available for three decades or more, relatively few motor vehicles have been subjected to a crash repair test. STAYSAFE identified a number of related statements issued over the period 1999-2004 regarding crash testing to assess the safety of repaired motor vehicles following crash damage.

3.6 On 2 November 1999, under the title 'Expertly repaired- As safe as new', Volkswagen AG stated:

Volkswagen carried out crash tests at 56 km/h on Golf and Bora vehicles which had been repaired at the Allianz Zentrum Technik (AZT) in Munich. The tests were carried out at the Research and Development department in Wolfsburg according to the conditions of the EU guideline. These conditions are also applied for monitoring during vehicle production. All legal stipulations were met. There were no differences in the injury criteria for vehicle occupants or in the vehicle measured values between the vehicles repaired by AZT and vehicles from the production line. The vehicle occupant protection systems also function perfectly after expert repair. The airbags and belt tensioners are activated at the same time even when welding work has been carried out on important components which could affect safety levels.

The correct repairs carried out by the institute workshop according to VW stipulations using VW genuine parts were decisive for the result of this test. With this procedure, the Allianz Zentrum tests the characteristics of

all vehicles on offer in Germany with regard to deformation, ease of repair, spare parts management and the repair procedure detailed by the manufacturer as well as the workshop equipment required. This is done for the insurance industry'.

3.7 Similarly, on 15 November 1999, under the title 'Safety is still guaranteed after a second repair carried out correctly: New research results from Allianz Zentrum für Technik', Allianz Versicherungs-AG stated:

"A repair carried out correctly following the guidelines of the automobile manufacturer has no effect on body stiffness and deformation response. Repair costs do not increase as a result of further damage. Occupant safety is not affected in any way."

This is the conclusion of Dr Dieter Anselm, head of the Allianz Zentrum für Technik (AZT), from the tests of his institute on the safety and economics of repairs on passenger vehicles carried out for the second time.

New tests by the AZT institute "Vehicle Technology" with the Volkswagen Golf IV, Bora and Mercedes C180 prove that components repaired after an accident, such as cross members, longitudinal members and wheel housings fulfilled all load requirements in a second crash. The costs of the repair with genuine spare parts stays within the scale of maintenance costs following the first accident. Occupant safety is not influenced by repairs carried out correctly. Similar results are, according to Dieter Anselm, to be expected from other vehicle types.

All tests at the AZT were carried out with an approx. 15 km/h frontal crash and demonstrated only minimal differences in deformation response, deceleration and repair costs following both crashes. The damage, for example, to the cross members, longitudinal members and wheel housing extension were virtually identical.

If repairs are not carried out correctly, however, negative results can be expected from body stiffness and deformation response during a second accident. Vehicle occupants could be subject to major risks, for example, if the airbag and belt tensioners are activated too late or do not activate at all.

According to the accident researcher Mr Anselm, the criteria for proper repairs are:

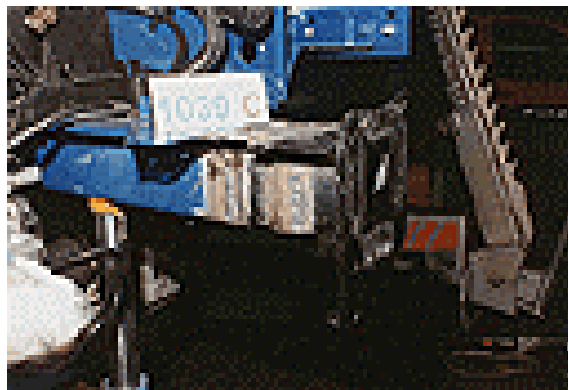
- Repair by qualified personnel in a recognised workshop.
- Repair following the guidelines of the vehicle manufacturer and the recognised methods of body repair.
- Sharp-edged deformations on structure body parts (bends, folds) may not be corrected.

- The stipulations of the manufacturer must be kept to if a part is replaced in the structural area.
- Use of genuine spare parts.

The statement included several images, which are shown below:



VW Golf IV—Identical deformations following AZT crash repair test on passenger vehicle in original condition (above) and following correct repairs (below).



VW Golf IV—Following first crash with passenger vehicle crash in original condition. Replacement of longitudinal member (left weld) and deformation element (right weld) correctly welded.



VW Golf IV—Following second crash in repaired vehicle. Replaced part weld on longitudinal member from previous repair is completely undamaged.

(Website: http://www.allianz-zt.de/azt.allianz.de/Kraftfahrzeugtechnik/Content/Seiten/English/Press/bis_1999/safety_still_guaranteed.html , accessed 8 May 2006)

3.8 On 16 March 2000, under the title 'Professional repairs - as safe as new: And no increased costs for future repair work', Allianz Versicherungs-AG stated:

"Only repairs that are carried out professionally and comply with the guidelines of automobile manufacturers have no negative effects on the body's rigidity and the deformation behaviour of accident vehicles. If this condition is satisfied, the safety of passengers is not affected as a result of repair work, even if another accident should occur."

This is the conclusion drawn by Dieter Anselm, head of the Allianz Center for Technology (AZT), on the basis of tests in connection with the safety and cost-effectiveness of repair work following a second accident. Tests carried out by AZT-Institut Kfz-Technik, the automotive testing division of the Allianz Center for Technology, on several vehicle types showed that in a second crash, safety-relevant vehicle components such as cross members, longitudinal engine beams and wheel houses withstood all prescribed stress situations if they had been professionally repaired after the first accident.

The two crashes showed only slight differences in deformation behaviour, in deceleration, in the safety of passengers and in repair costs. According to Anselm, this is the reason why the insurance industry justifiably attaches a lot of importance to professional repair work that takes into account the guidelines of automobile manufacturers and the approved work methods of the panel beating trade. For partial replacements in the structural area, the specifications of the manufacturer must be complied with. In the event of sharp-edged deformations, e.g. bending or buckling, the affected structural parts would have to be replaced; for safety reasons these elements should not be repaired.

If claimants do not have their vehicles repaired, or at least not by a professional, because they want to save money or cash in on an accident for which they bear no responsibility by using a "fictitious invoice", i.e. indemnification without proof of repair, they risk considerable negative consequences in case of a second accident, according to the manager of AZT. Occupants could be greatly endangered as a result of a less rigid body and deteriorated deformation behaviour of the car that could, for example, lead to the belt tightener being delayed or not triggered at all.

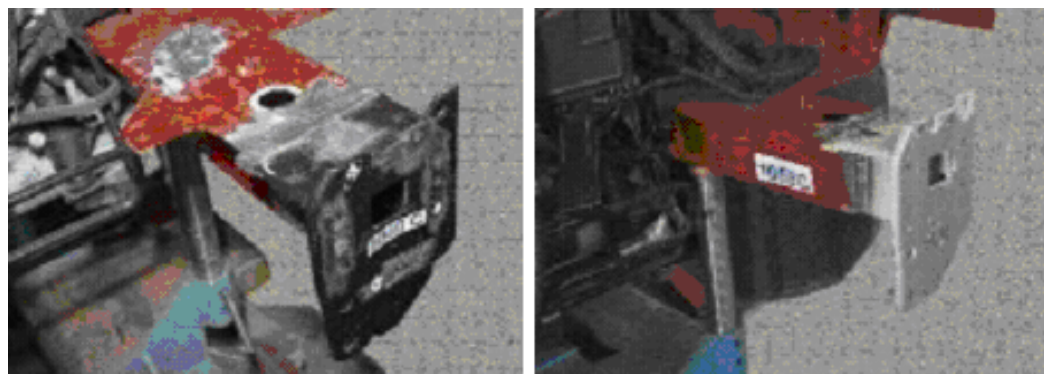
"Auto insurers are first and foremost concerned about road safety, alone out of self interest", emphasised Dieter Anselm. "That's why we have always campaigned for professional, safe repairs, and never for cheap repairs." The so-called "fictitious invoice" bears the risk that the damage is not repaired at all, or at least not professionally, making the vehicle less

safe for the road. Moreover, Allianz accident researches found that repairs, as opposed to replacements, may and should only be carried out on those body areas or for those types of damage that can be fixed without loss of rigidity and deterioration of the deformation behaviour.

The statement include several images, which are shown below:



After the AZT crash repair test: Identical deformation of the vehicle, original (above) and after professional repair (below). Photo: Allianz Versicherung



Identical extent of repair: Partial replacement of the deformation element at the chassis rail after the first crash (above) and after the second crash (below). Photo: Allianz Versicherung

(Website: http://www.allianz-azt.de/azt.allianz.de/Kraftfahrzeugtechnik/Content/Seiten/English/Press/ab_2000/professional_repairs.html accessed 8 May 2006)

3.9 In March 2002, in a series of media commentaries discussing the anniversary of thirty years of automotive research at the Allianz Center for Technology, the contribution of the organisation to road safety and cost cutting was emphasised:

Prof. Anselm: "We have highlighted the risks as well as potentials for improvement."

"In the past 30 years our research has made a decisive contribution to improving the deformation behavior and repair-friendliness of motor vehicles, to cutting repair costs and to greater active and passive safety of motor vehicles. The consumer has also benefited from lower auto insurance premiums as a result." This is the way Prof. Dieter Anselm, head of the Allianz Center for Technology (ACT), summed up the Center's record.

When the cost of repairing damage to automobiles shot up dramatically in the early 70s, Allianz Versicherungs AG decided to give its Center for Technology, founded in Berlin in 1932 and relocated to Ismaning near Munich in 1962, its own Institute of Automotive Engineering. The initiator and first chief, Prof. Max Danner, and his team began to do systematic research into accident damage and to describe ways of preventing such damage or of limiting its repercussions.

For example, over the years the ACT has developed the sectional repair technique, fostered the partial painting and touch-up system, put forward proposals on spare-part design and repair methods and encouraged the automobile industry to design, among other things, energy-absorbing and more repair-friendly bumper systems and longitudinal members. According to Dieter Anselm, Max Danner's successor since 1993, these were all "decisive steps toward cutting the cost of accident repairs without diminishing safety, quality or appearance." As an additional effect the accident researcher mentions the benefit to the environment by reducing the consumption of materials such as metal and paint as well as the benefit to the consumer. "We succeeded in curbing the increase in auto-insurance premiums", he explains.

The ACT's scientific research into safety belts, airbags, child retention systems, the transportation of children on bicycles and dogs in cars, motorcycle accidents, car seats and head rests have highlighted risks for road users. As Anselm emphasizes, "Not only have we pinpointed the dangers, we have also always proposed specific improvements and developed guidelines or recommendations that have been adopted and implemented by industry. This has improved road safety and benefited all of us as road users".

The Automotive Engineering Department he heads at the ACT has created further benefit for the consumer by drawing up the requirements for the electronic car immobilizer. In the years since the device was launched the number of stolen cars has plunged, falling from more than 144,000 in 1993 to fewer than 70,000 in 2000 (approx. 62,300 in 2001). "This has improved auto insurers' loss experience and has had a beneficial impact on premiums for auto physical damage insurance."

3.10 It was noted that at the Allianz Center for Technology other research areas have been added to the original accident repair research. New materials are being tested,

new tools tried out. The development of the AZT crash repair test for the first time created the basis for comparing different vehicles with regard to their repair-friendliness. The results are already taken into account in the design of new cars today. With increasing traffic density and accident frequency, safety issues are becoming more and more the focus of our attention. Do safety systems live up to their promises? How can safety systems be optimized? What must be observed when children are taken along in cars or on bicycles? These are only a few of the questions that have arisen out of practical claims experience and are being looked into in numerous research projects.

3.11 Allianz Versicherungs-AG, in a statement 'Electronic components in motor accident repairs', on 6 September 1999, commented that motor vehicle manufacturers should act to remove expensive electronic components or batteries from the most frequently affected shock-absorbing zones.

The use of electronic components in motor vehicles has rapidly increased over the past 20 years in line with the development of the electronics industry. Today's cars all have an electronic engine management, including an electronic exhaust regulator. A multitude of electronic systems are deployed to enhance safety and driving comfort.

Despite their various modes of operation, electronic control systems are designed according to a basic pattern.

Sensors, control units and servo components - the main elements of every electronic control system - are electrically wired with each other for data transmission and power supply. The possibility exists that these components become damaged as a result of a motor accident or other loss event, such as fire or flood.

AZT's demands on motor vehicle manufacturers to remove expensive electronic components or batteries from the most frequently affected shock-absorbing zones, such as the front cross member and front end of the wheel house, and to locate these components more cost-efficiently between the spring strut dome and the front wall are still justified today.

When determining the scope of damage to a vehicle and, subsequently, the appropriate repair procedure, the following points must be clarified:

Has the system broken down completely, are there malfunctions or does optically recognisable damage exist? The majority of electronic control systems today are self-monitoring. Any errors that occur are recognised and stored. For safety-related systems such as ABS or airbags any errors are indicated by means of warning lights or displays inside the vehicle. However, errors in non-safety-related control systems, e.g. air-conditioning, are not indicated but simply stored in the control unit. These errors can only be detected through a suitable diagnostic test and by carrying out an error-memory scan. Visible damage must be recorded.

Which components cause errors? The exact location of a faulty component can only be found by a qualified expert with an appropriate diagnostic tester in conjunction with a well-documented test manual. Modern testing equipment is not only able to test electronic functions, but can also simulate operations. Not many years ago repair shops still used to replace the individual components of a system one after the other for as long as it took for the whole system to function again. This method of locating the fault, which smaller repair shops are practising to this day, on the one hand is very expensive for the customer (many working hours, many fully functioning components exchanged for test purposes are not replaced) and on the other hand is no longer able to be carried out given more and more complex systems with only sporadic malfunctions. As a result of all systems being networked, damaged components can cause errors in different individual systems.

In how far can these shortcomings be attributed to the loss event? While damage to wire and plug connections can quite easily be attributed to a loss event, this becomes much more difficult in the case of malfunctions of sensors, control units and servo components. Until the mid-80s automobile manufacturers provided repair shops with no instructions as to when and when not to replace electronic components following an accident. As a result of this unclear situation many expensive electronic modules were replaced as a precautionary measure, according to the motto:

"Given the extent of this damage the electronic system must also have been affected".

This reaction is clearly based on a wrong assessment of the acceleration and forces at work in a typical accident, because in their component specifications, car manufacturers presuppose that these parts are able to withstand a so-called shock test. The strain during these shock tests is approximately twice that of an accident with average severity. To find a way out of this unacceptable situation, as early as 1987 AZT, in co-operation with all German automobile manufacturers, developed a guideline for the post-accident treatment of electronic components which is still valid today:

Damage to electronic components

Replacement if at least one of the following applies:

- the case is deformed or damaged
- supporting surface or console is deformed (electronic unit is intact)
- plug connection of the module is damaged or corroded

3.12 Doing responsible research, at the start of the new millenium, also means that the needs of the environment must be given due consideration. Therefore the basic idea of "repairing instead of replacing" is just as important today as the testing of new environment-friendly materials such as water-based paints. New technologies, high-tech materials as well as growing quality and safety standards are making more and

more demands on repair and processing technologies. Thus, here too it is a question of saving costs by means of new repair methods, without sacrificing safety. This theme has been reflected on other statements by Allianz Versicherungs-AG. For example, in 23 March 1999, a statement headed 'Car repairs with used spare parts: Technically sound, ecologically friendly, saves costs' indicated that:

Repairing vehicles with used original spare parts is not only technically feasible, but also makes ecological sense and saves costs. This was the outcome of a large-scale study conducted by the Allianz Center for Technology (AZT). But before this so called "actual cash value" method of repair is recognized by the insurance industry, repair shops, consumers and legislators and launched market-wide, a number of structural and logistic pre-requisites have to be met.

According to Dieter Anselm, chief executive of the Allianz Center for Technology, one of these pre-requisites is a supply of high-quality used parts for all vehicle types and the networking of recyclers and insurers' data processing systems. In addition, used spares would have to bear a seal of quality, be listed in an intelligent numerical system and be available within one to two days. A catalog of allowed times for painting work would be needed so that repairs can be assessed for cost effectiveness.

But as the AZT accident expert pointed out, the most important pre-requisite would be to establish which used parts can in fact be used in repair work. Screw-on body parts could be employed without any problems, while weld-on parts would have to fulfill certain conditions. On the other hand Anselm rejects the use of safety-relevant parts such as steering systems, brakes, airbags and safety belts, "unless they are reworked and guaranteed by the car manufacturers or suppliers."

As the AZT study shows, this method only results in a single-digit percentage cost advantage against the total volume of comparable repairs using new parts. But in absolute terms it represents a considerable saving for the insurance industry of around 500 million marks. According to Anselm "this would cut the insurer's claims expenses and therefore also insurance premiums without diminishing the quality of the repair work".

3.13 Several years later, Allianz Versicherungs-AG reported a further crash repair test. On 1 December 2004, under the title 'Top marks for the bestseller', Allianz Versicherungs-AG stated:

How safe is a repaired vehicle? The Allianz Centre for Technology (AZT) answered this question in a scientific study of repair costs following a crash.

"Repaired correctly, it is just as safe as when it was new". This summarises the results of the study. A new Golf was subjected to a frontal impact with an impact speed of 15 km/h and an overlap of 40% against a

fixed barrier in the Allianz Insurance technology centre. After the simulated accident, the vehicle was repaired by the AZT in accordance with Volkswagen guidelines and using genuine replacement parts.

A new frontal impact was then carried out with the Golf. The results of both impacts were the same, which proved that a correctly repaired Golf offers the same level of safety as a new vehicle.

This so-called "crash repair test" offers the opportunity to examine a vehicle for its ability to be repaired and is therefore an important factor in insurance classifications for new vehicles. Something that takes high priority at Volkswagen.

However, the tests carried out as part of this study did not stop there. Having now passed both the "low speed frontal impact" tests with flying colours, the Golf was then subjected to a "high speed frontal impact" to verify occupant safety. The Golf was driven into a deformable barrier (tested in accordance with ECE-R94) with an impact speed of 56 km/h and an overlap of 40%. The results of this showed that all safety equipment such as airbags and belt tensioners worked in the same way as they would in a new vehicle and that all occupant protection criteria and occupant loading were identical to those in a new vehicle.

The Golf had already performed well in June, when it achieved excellent Euro NCAP impact test results. It was awarded a total of 5 stars for frontal and side impact, 4 stars for child safety and 3 stars for pedestrian safety.

(Website: http://media.vw.com/article_display.cfm?article_id=9494 , accessed 8 May 2006)

3.14 On 6 December 2004, under the title 'Damage control - is your car still safe after a crash?', Allianz Versicherungs-AG stated:

Wolfsburg, Germany - Ever been in a crash, had your car repaired and then headed off into the traffic again wondering if your vehicle still has the same integrity and safety as when it was new?

The Allianz Centre for Technology in Germany also wondered about this so set out to answer the question in a scientific study of repair costs after a crash.

"Repaired correctly, a car is just as safe as when it was new," was the consensus after deliberately crashing a new VW Golf, repairing it, and then crashing it again. And again.

AZT took a new Golf and rammed it into a concrete barrier at 15km/h in the Allianz Insurance technology centre with what the industry calls "an overlap of 40 percent" – which means just less than half the front of the car hit the barrier.

AZT repaired the car the in accordance with VW guidelines and using genuine replacement parts – then went and crashed it again.

The result of each impact was the same, "proving that a correctly repaired Golf gives the same level of safety as a new vehicle".

This "crash repair test" allows a car to be examined for its ability to be repaired - an important factor in the classification of new vehicles for insurance loadings.

The Golf was repaired again after passing both "low-speed frontal impact" tests with flying colours then crashed for a third time, but much faster – 56km/h into the same barrier with the same overlap of 40 percent.

That's a serious speed for a crash test but all safety equipment such as crash bags and belt tensioners worked as they would have in a new vehicle and all passenger protection criteria and loadings were identical to those of a new vehicle.

(Website: <http://www.motoring.co.za/index.php?fArticleId=2335373>, accessed 8 May 2006)

3.15 STAYSAFE notes that a very good summary of the issues associated with the crash repair test, and of the relationships between motor vehicle design, the characteristics of deformation of the vehicle body and components during a crash, and the safe repair of a crash motor vehicle were examined in a review monograph published in 2000:

Anselm, D. (2000). The passenger car body: Design, deformation characteristics, accident repair. Warrendale, PA: Society of Automotive Engineers (SAE) International. 336 pp.

STAYSAFE notes that it appears that no copy of this monograph is available to New South Wales road safety workers currently.

Low speed crash testing

3.16 Much of the testimony relating to the crash testing of a repaired motor vehicle related to low speed crash testing methodologies—the bumper tests—designed to assess the cost and ease of repair of low impact crashes involving new motor vehicles and to promote the development of more compatible bumper structures that have better energy absorption characteristics and which allow less aggressivity in vehicle-vehicle crashes. The aggressivity of a motor vehicle is defined as the fatality or injury risk for occupants of other vehicles with which it collides. For crashes involving between two vehicles, aggressivity is affected by such factors as the mass of the vehicle, bumper height, and whether the vehicle is 'overweight' (i.e., is heavier than the average weight for vehicles of the same wheelbase).

3.17 There are a number of low speed crash testing methodologies. The RCAR barrier tests typically consists of four tests: a full front impact test, a full rear impact test, a front corner impact test, and a rear corner impact test. The tests involve an impact at 10 km/h (for full frontal and rear tests) and 5 km/h (for corner impact tests) with a contoured bumper-like barrier with an energy-absorbing element. The evaluation of crash performance usually involves an assessment of damage repair costs and a scale rating of performance (good, acceptable, marginal or poor). Some low speed crash tests involve speeds of 5 mph (8 km/h) and 10 mph (16 km/h).

3.18 In Australia, NRMA Insurance conducts a low speed crash test that determines the cost of repair after a motor vehicle is subjected to a pendulum crash, replicating a 15 km/h collision with a solid barrier or a 30 km/h collision into the rear of another vehicle. The NRMA Insurance low speed crash tests are designed purely to determine the cost of repairing motor vehicles following crashes. They do not test occupant safety, and no personal safety conclusions can be drawn from these tests.

Concluding comments

3.19 STAYSAFE also identified a very limited number of reports that related to proprietorial products, such as adhesives or structural foams, where the effectiveness or strength of the product was illustrated through a crash testing process that demonstrated that structural integrity was not compromised on a repaired motor vehicle component subjected to impact damage.

3.20 This chapter has documented the very limited number of crash repair tests that have been published. It is now clear that the test conducted at the Autoliv Australia facility on 15 November 2005, as documented in this report, is the first full publication of an analysis of a crash repair test. The test involved the crash testing of a Ford Fairmont Ghia AU III that had been involved in a severe road crash previously and had been repaired to the relevant insurer's specifications. The purpose of the crash test was to determine whether the repaired motor vehicle would provide the same protection to occupants as it had been assessed in the original new condition. The test was a frontal barrier offset test, equivalent to the Australian New Car Assessment Program (ANCAP) test, and allowed a direct comparison with previous ANCAP data for this model of motor vehicle.

Appendix A—

Relevant extracts from the minutes of the STAYSAFE Committee regarding crash repair tests, examined as part of the inquiry into motor vehicle smash repairs under the Insurance Australia Group (NRMA Insurance) Preferred Repairer Scheme

This appendix contains relevant extracts from the minutes of STAYSAFE Committee meetings of:

- Friday 15 December 2006

regarding crash repair tests, examined as part of the inquiry into motor vehicle smash repairs under the Insurance Australia Group (NRMA Insurance) Preferred Repairer Scheme.

STAYSAFE

PROCEEDINGS OF THE JOINT STANDING COMMITTEE ON ROAD SAFETY

11:30 A.M., FRIDAY 15 DECEMBER 2006
AT PARLIAMENT HOUSE, SYDNEY

MEMBERS PRESENT

Legislative Council

Mr West
Mr Colless

Legislative Assembly

Mr Gibson
Mr Maguire
Mr Barr

Also in attendance: Mr Faulks, Manager of the Committee, Ms Jay, Senior Committee Officer, and Ms Yeoh, Assistant Committee Officer

The Chairman presiding.

1. Apologies

Apologies were received from Mr Souris, Mr Bartlett, Mr Hunter, Ms Hay and Mr Brown.

2. Previous minutes

On the motion of Mr Colless, seconded Mr Barr, the minutes of Meeting No. 52 held on Monday 13 November 2006 was accepted as a true and accurate record.

....

5. Consideration of Chairman's draft report: 'Crash testing of repaired motor vehicles: Further report of an inquiry into motor vehicle smash repairs under the Insurance Australia Group (NRMA Insurance) Preferred Repairer Scheme and its implications for roadworthiness, crashworthiness, and road safety'

The Chairman presented the draft report: 'Crash testing of repaired motor vehicles: Further report of an inquiry into motor vehicle smash repairs under the Insurance Australia Group (NRMA Insurance) Preferred Repairer Scheme and its implications for roadworthiness, crashworthiness, and road safety'.

The draft report was accepted as being read.

The Committee proceeded to deliberate on the draft report:

Chapter 1

Paras. 1.1 – 1.10: read and agreed to

Chapter 2

Paras. 2.1 – 2.4, read and agreed to

Chapter 3

Paras. 3.1 – 3.20, read and agreed to

On the motion of Mr Maguire, seconded Mr Barr:

That the draft report: 'Crash testing of repaired motor vehicles: Further report of an inquiry into motor vehicle smash repairs under the Insurance Australia Group (NRMA Insurance) Preferred Repairer Scheme and its implications for roadworthiness, crashworthiness, and road safety' be read and agreed to.

Passed unanimously.

On the motion of Mr Maguire, seconded Mr Barr:

That the draft report: 'Crash testing of repaired motor vehicles: Further report of an inquiry into motor vehicle smash repairs under the Insurance Australia Group (NRMA Insurance) Preferred Repairer Scheme and its implications for roadworthiness, crashworthiness, and road safety' be accepted as a report of the STAYSAFE Committee, and that it be signed by the Chairman and presented to the House.

Passed unanimously.

On the motion of Mr Maguire, seconded Mr Barr:

That the Chairman and Committee Manager be permitted to correct any stylistic, typographical and grammatical errors in the report.

Passed unanimously.

....

17. General business

...

There being no further business, the Committee adjourned at 12:30 p.m..

Chairman

Committee Manager

Appendix B—

Reports of the STAYSAFE Committee 1982-2006

STAYSAFE 1 (1982)	Alcohol, drugs and road safety.
STAYSAFE 2 (1984)	Car driver licensing and road safety.
STAYSAFE 3 (1984)	Motorcycling safety.
STAYSAFE 4 (1985)	Is there a police quota system?
STAYSAFE 5 (1985)	Traffic law enforcement.
STAYSAFE 6 (1985)	The administration of random breath testing.
STAYSAFE 7 (1986)	Police hot pursuits.
STAYSAFE 8 (1986)	Speed control.
STAYSAFE 9 (1986)	Safe speed and overtaking on 100 km/h roads.
STAYSAFE 10 (1986)	Radar detectors and jammers.
STAYSAFE 11 (1987)	Safety of 2-lane country roads.
STAYSAFE 12 (1988)	Bicycle safety.
STAYSAFE 13 (1989)	Immediate and certain loss of licence for extreme drink-driving.
STAYSAFE 14 (1989)	Malpractice in driver licence testing.
STAYSAFE 15 (1989)	Alert drivers, and safe speeds for heavy vehicles.
STAYSAFE 16 (1990)	B-Doubles.
STAYSAFE 17 (1990)	Novice drivers: the student's view.
STAYSAFE 18 (1990)	Steering novice drivers towards safety.
STAYSAFE 19 (1992)	Alcohol and other drugs on New South Wales roads. I. The problem and countermeasures.
STAYSAFE 20 (1993)	Alcohol and other drugs on New South Wales roads. II. Offences, penalties, and the management of convicted drivers.
STAYSAFE 21 (1992)	Culpable driving.
STAYSAFE 22 (1992)	Towing caravans and trailers safely.
STAYSAFE 23 (1992)	A decade of the STAYSAFE Committee 1982-1992.
STAYSAFE 24 (1992)	Livestock warning signs: Road safety implications of the draft Rural Lands Protection (Amendment) Bill 1992.
STAYSAFE 25 (1994)	Death and serious injury on New South Wales roads: An examination of the provisions of the Crimes Act 1900 (NSW) regarding dangerous driving.
STAYSAFE 26 (1994)	Pedestrian safety. I. School children around buses.
STAYSAFE 27 (1994)	Traffic stops, police chases and police pursuits of motor vehicles.
STAYSAFE 28 (1995)	Sleep disorders, driver fatigue and safe driving.
STAYSAFE 29 (1995)	Pedestrian safety. II. Cleaning windscreens and other itinerant commercial activities on or alongside the roadway.
STAYSAFE 30 (1996)	Pedestrian safety. III. Bicycle courier activities in the Sydney central business district.
STAYSAFE 31 (1996)	Review of the road safety situation in New South Wales in 1994.
STAYSAFE 32 (1996)	Aspects of road safety administration in New South Wales.
STAYSAFE 33 (1996)	Responses to recommendations in STAYSAFE reports of the 50th Parliament.
STAYSAFE 34 (1996)	A 50 km/h general urban speed limit for New South Wales.
STAYSAFE 35 (1997)	The Traffic Amendment (Street and Illegal Drag Racing) Act 1996 - A report into the sunset provision.

- STAYSAFE 36 (1997) Drivers as workers, vehicles as workplaces: Issues in fleet management.
- STAYSAFE 37 (1997) Driver licensing in New South Wales: First entry into the driver licensing system.
- STAYSAFE 38 (1997) Report of the 2nd meeting of Australasian Parliamentary road safety committees and Ministerial nominees, Parliament House, Sydney, Wednesday 2 April 1997 and Thursday 3 April 1997.
- STAYSAFE 39 (1997) Young drivers - Proceedings of a seminar at Parliament House, Sydney, 30 April 1997.
- STAYSAFE 40 (1997) A 50 km/h general urban speed limit for New South Wales: Progress report and edited minutes of evidence.
- STAYSAFE 41 (1998) Review of the road safety situation in New South Wales in 1995.
- STAYSAFE 42 (1998) Review of the road safety situation in New South Wales in 1996.
- STAYSAFE 43 (1998) Electronic drivers licences.
- STAYSAFE 44 (1998) Developing safer motor vehicles for Australia.
- STAYSAFE 45 (1998) Injury prevention and infection control in the taking of blood samples from drivers suspected of alcohol or other drug impairment.
- STAYSAFE 46 (1998) Falling asleep at the wheel C Legal and licensing implications of driver fatigue.
- STAYSAFE 47 (1998) Review of the road safety situation in New South Wales in 1997.
- STAYSAFE 48 (1998). Pedestrian safety. IV. Child pedestrian safety in New South Wales.
- STAYSAFE 49 (1998). Comments concerning the development of uniform traffic law in Australia—the Australian Road Rules.
- STAYSAFE 50 (2000). Speech by Grant McBride MP, STAYSAFE Chairman, in opening the 4th Local Government Road Safety Conference, Millennium Hotel, Kings Cross, 11-13 August 1999.
- STAYSAFE 51 (2000) Review of the road safety situation in New South Wales in 1998.
- STAYSAFE 52 (2001) Responses of Government agencies to recommendations in STAYSAFE reports of the 51st Parliament.
- STAYSAFE 53 (2001) Traffic control and safety around schools - Part 1 - Major recommendations and summary.
- STAYSAFE 53 (2002) Traffic control and safety around schools - Part 2 -Responses of government agencies to the major recommendations and summary.
- STAYSAFE 53 (2002) Traffic control and safety around schools - Part 3 -The evidence.
VOLUME 1 – The testimony of school communities in 2000.
VOLUME 2 – The testimony of school communities in 2001.
VOLUME 3 – The testimony of representatives of government agencies.
VOLUME 4 – The testimony of representatives of local councils.
VOLUME 5 – The testimony of bus and taxi operators, representatives of non-government organisations, private citizens and Members of Parliament.
- STAYSAFE 53 (2002) Traffic control and safety around schools - Part 4 - Summaries of submissions received from government agencies, non-government organisations, and the community.
- STAYSAFE 54 (2002) Road safety and street design in town centres: Towards best practice in traffic control and safety for main streets in New South Wales: Proceedings of a conference held at Parliament House, Sydney, 31 July - 1 August 2000.
- STAYSAFE 55 (2002) Review of the road safety situation in New South Wales in 1999.
- STAYSAFE 56 (2004) Railway level crossings: Improving safety where railways and roads intersect at the same level.

- STAYSAFE 57 (2002) Work-related road safety. Proceedings of a seminar held at Sydney, Thursday 8 February 2002.
- STAYSAFE 58 (2002) Bullying, abuse, intimidation and assault on the road – selected Australasian research on ‘road rage’ and aggressive driving.
- STAYSAFE 59 (2002) On strategic planning for road safety in New South Wales.
- STAYSAFE 60 (2002) A decade of the STAYSAFE Committee, 1992-2002.
- STAYSAFE 61 (2004) Car surfing and the carriage of unrestrained and unprotected passengers on motor vehicles.
- STAYSAFE 62 (2004) “Road safety is no accident”: Proceedings of a seminar for World Health Day, 7 April 2004.
- STAYSAFE 63 (2004) Road crash statistics in 2002
- STAYSAFE 64 (2004) Road crash statistics in 2003
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