



## Australasian Road Rescue Organisation Inc

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## TECHNICAL BULLETIN No. 01/2004

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### SUBJECT

'Rearward opening/suicide style doors', 2003 Mazda RX8 Sports Coupe.

### INTRODUCTION

This bulletin highlights the construction and basic operation of rearward opening doors on the 2003 Mazda RX8 Sports Coupe. This vehicle was provided by a local car dealership in Rockhampton, Queensland, who specialises in Mazda vehicles. A previous Technical Bulletin in 2003 highlighted other Mazda and Ford vehicles with this style of door.



2003 Mazda RX8 Sports Coupe



### Vehicle

Available as above in one body style only, with two recognisable front doors, with two rearward opening doors that allow access to the rear seats.

The **bonnet and outer skin of the rearward opening doors** are both constructed of **aluminium**. The bonnet's construction is designed to minimise potential injuries to pedestrians if hit by the front of a vehicle.

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# REARWARD OPENING DOORS

## Technique

Station Officer John Mathers, (Queensland Fire and Rescue Service)

Evolutions to remove or access the side of these vehicles should be reviewed to assess the most suitable technique depending on impact, intrusions and damage. Rescuers should be aware that this style of 'B' pillar construction might lead to uncharacteristic reactions when conducting spreading evolutions on the front doors.

Over the last two years it has been my good fortune to have the opportunity to travel to Canada, on a Firefighter Exchange and to assess at the "World Extrication Challenge". In both these areas I have learnt **two** techniques to deal with the sample possible problem. Up until last year there was not a great deal of use of the particular techniques within Australia. However, with Mazda's sports car of the year in 2004, and Mazda and Ford's 'freestyle' cab vehicles, the need for forceful entry of a 'rearward opening' (RO) or 'suicide style' door is now required.



Mazda, Australia

### Typical Design of RO/Suicide style Doors.

They have three latching areas, one is at the top in the roof/gutter area, a second is at the middle where the front door and the rear door meet. There is no B Pillar at this point, however the RO/suicide style door has an **internal hardened structural component** for internal strength. The third latch can be found at the bottom of the door and it connects into the sill of the vehicle.

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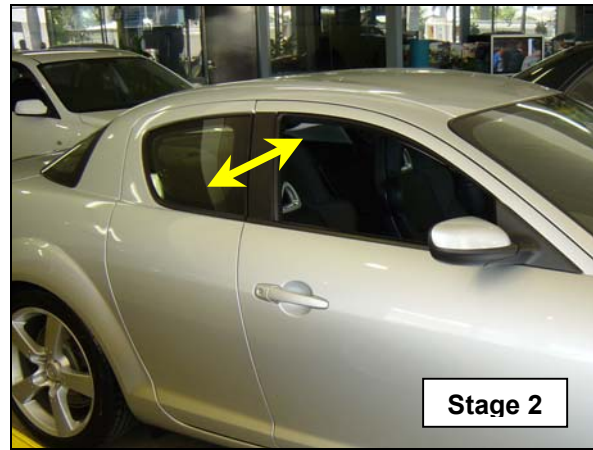
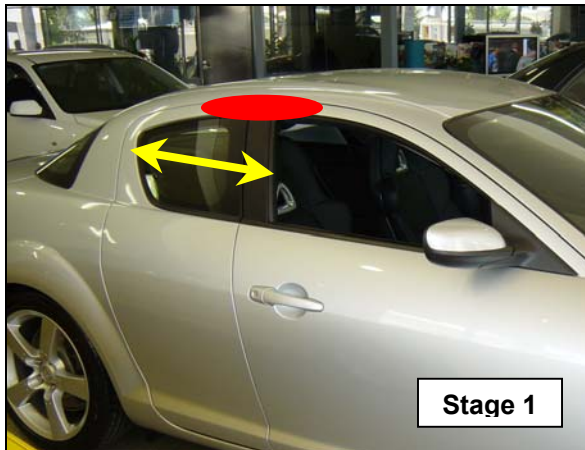
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## TECHNIQUE No. 1 – Opening both doors from traditional ‘B’ pillar area.

### OPTION A – Stage 1

This technique involves a minimum of five points of stabilisation and the removal or breaking of the glass at the front and rear door. Then place a spreader into the rear door window and operate the spreaders in a **horizontal direction**, which will make an **opening** at the top of the door, (a short ram may achieve the same opening).

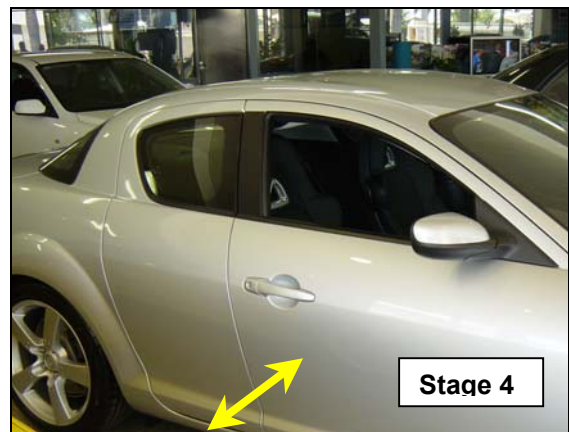
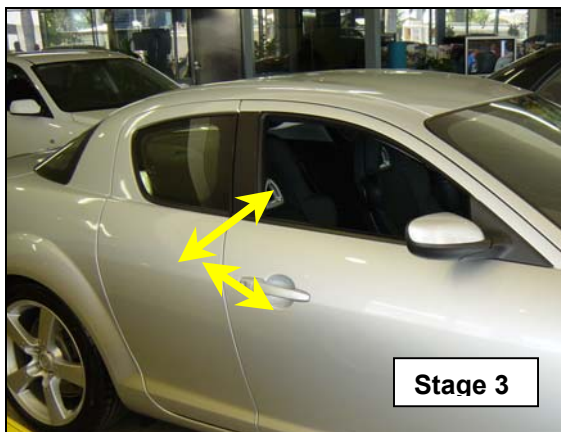


### Stage 2

Place the spreaders in the opening made during stage 1 and **spread** the top of the rear door away from the car therefore breaking the connection of the top latch point.

### Stage 3

Stage 2 allows access to the middle latch point. From the top of the latch again **spread** the front door towards the outside of the car. At this point you will be spreading off the RO/suicide style door to pop the front door.



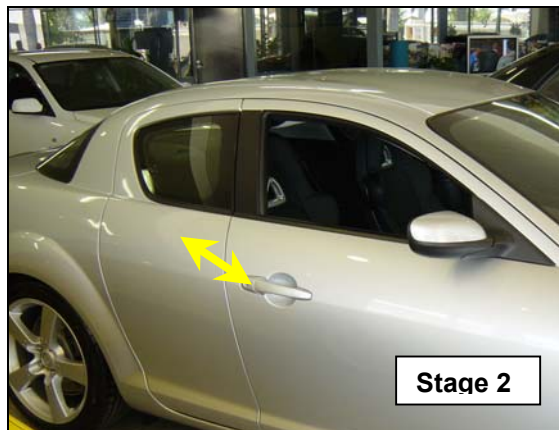
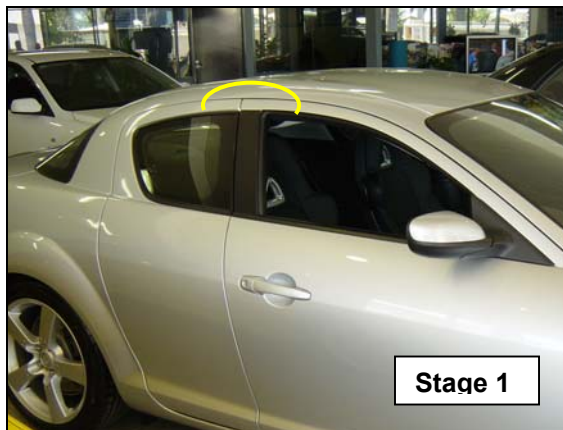
### Stage 4

Finally, with the front door open, **spread** the lowest latch point, either out and away from the car or place the spreaders in a position to push the door up and away from the sill area.

## OPTION B – Stage 1

Involves using the reciprocating saw as well as spreaders and cutters.

Using the reciprocating saw **cut** a half moon shape in the roof section where the RO/suicide style and front door connects to the roof area. Alternatively, using the cutters, make a 'V' **cut** into the roof to release this section.



### Stage 2

Use the spreader and cutter to open up the middle latch point.

### Stage 3

Again spread the door in such a manner to break the connection at the bottom sill. Alternatively as space permits the reciprocating saw or cutters could be used at the bottom of the sill, so long as it is safe to do so.



Top latch



Middle latch



Bottom latch



### SAFETY POINTS

Be aware when spreading the RO/suicide style door in an outwards position you may inadvertently push the front door in towards the seats as there is no 'B' Pillar to give structural strength to the purchase point. If cutting the latches is an option it may be the easiest way to open the door.

Before any cutting or spreading takes place it is paramount that the tool operators thoroughly check behind door and roofline trimmings for any SRS systems.

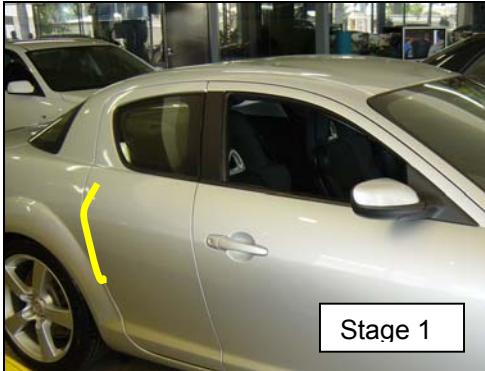
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## TECHNIQUE No. 2 – Removing side from the rear hinges.

### Stage 1

This technique involves a minimum of five points of stabilisation and the removal or breaking of the glass at the front and rear door. **Create a gap** to allow access to the rear hinges of the RO/suicide style rear door.

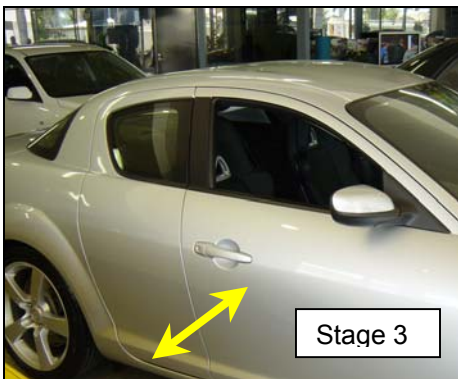


### Stage 2

Spread hinges away from rear panel or use cutters or reciprocating saw to cut hinges.

### Stage 3

The upper latch may be spread away from the roof rail or cut around as per the previous technique with the reciprocating saw or cutters. The bottom latch can be spread away from the sill, with the whole assembly swung around on the front door hinges.



### Other Vehicles with the same rear doors



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This information is intended to increase the awareness levels of road rescue providers by highlighting vehicle design and construction changes with the technological advances.

If you are able to provide any further information of practical incidents where you have used different techniques, or find that these techniques are sufficient or insufficient, please contact the Australasian Road Rescue Organisation (ARRO) to advise of the techniques you have used to overcome the potential problem posed by this new construction.

Vehicles provided by

B&J Car Sales, Rockhampton, Qld, and  
Tropical Auto Group, Rockhampton, Qld.

Cutaway door photo provided by

Mazda Australia.

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