Section K
Cabin

Contents

Section K — Overview

1. Description

This section of Vehicle Standards Bulletin 6 (VSB6) relates to alterations to heavy vehicle cabins and outlines the minimum requirements when adding or removing seats, seatbelts, seat and seatbelt anchorages, installing child restraint anchorages, performing major cabin alterations, modifying cabin interiors and installing wheelchair occupant restraint systems.

It consists of the following modification codes:

K1	**Seating capacity alteration, seat, seatbelt and anchorage installation** • installation of approved seats to approved anchorage points • installation of approved seat anchorages • installation of seatbelts conforming to ADR 4/.. approved anchorage points • installation of approved seatbelt anchorages • removal of seats and seatbelts.
K2	**Certification of seat and of seatbelt anchorage** • certification of seat anchorages • certification of seatbelt anchorages.
K3	**Cabin conversion** • removal of existing cabin and replacement with an alternative, including with a cabin of the same make, model and year of manufacture • repositioning of existing steering column • repositioning of existing accelerator, brake and clutch controls • repositioning of the existing gear change mechanism • construction and installation of new cabin • extending or shortening of existing cabin • change in cabin roof profile.
K5	**Installation of wheelchair occupant restraint system** • installation of wheelchair occupant restraint assemblies and anchorages complying with AS/NZS 10542.1, Technical systems and aids for people with disability.
K6	**Child restraint anchorage installation** • location and drilling of an anchor hole for use as a child restraint anchorage into vehicles • installation of an anchor bar, vertical post, universal frame or twin cab device for child restraint.

2. Related Australian Design Rules

The Australian Design Rules (ADRs) relevant to this section include:

ADR no.	Title
2, 2/..	Side Door Latches and Hinges
3/..	Seats and Seat Anchorages
4/..	Seatbelts
5/..	Anchorages for Seatbelts
6, 6A, 6/..	Direction Indicators
8, 8/..	Safety Glazing Material
12, 12/..	Glare Reduction in Field of View (This standard ceased to have effect for new vehicles from 9 December 2003)
13/..	Installation of Lighting and Light-signalling Devices on other than L-Group Vehicles
14, 14/..	Rear Vision Mirrors
15, 15/..	Demisting of Windscreen (this standard ceased to have effect for new vehicles from 9 December 2003)
16, 16/..	Windscreen Wipers and Washers (this standard ceased to have effect for new vehicles from 9 December 2003, the requirements have now been incorporated in ADR 42/..)
18/..	Instrumentation
34/..	Child Restraint Anchorages and Child Restraint Anchor Fittings
35/..	Commercial Vehicle Brake Systems
42/..	General Safety Requirements
92/..	External Projections

3. Record keeping

The person responsible for certifying the modification should:

- collate complete records, including drawings, calculations, test results and copies of the appropriate issue of Australian Standards and ADRs
- retain the records for a minimum of seven years after commissioning of the modified vehicle
- make the records available upon request for inspection by officers of the relevant federal, state or territory authority or heavy vehicle regulator.

Reports and checklists

The person responsible for certifying the modification must complete and record the following reports and checklists as applicable:

K1 Checklist	Seating capacity alteration, seat, seatbelt and anchorage installation
K2 Checklist	Certification of seat and of seatbelt anchorage
K3 Checklist	Cabin conversion
K5 Checklist	Installation of wheelchair occupant restraint system
K6 Checklist	Child restraint anchorage installation

4. Design requirements

Advanced braking systems

Advanced braking systems are an important safety feature fitted to many new vehicles.

Advanced braking systems are programmed by the vehicle manufacturer and are specific to the vehicle to which they are fitted. Changes made to the vehicle, such as engine, tyre size, steering control, suspension characteristics, vehicle mass and its distribution, may impact the performance of the advanced braking system.

Exercise extra caution when modifying vehicles fitted with advanced braking systems. Electric braking systems may be known as:

- electronic stability control (ESC)
- electronic stability program (ESP)
- vehicle stability control (VSC)
- dynamic stability control (DSC)
- vehicle stability assist (VSA)
- roll stability control (RSC)
- roll control system (RCS)
- electronic braking system (EBS)
- trailer electronic braking system (TEBS).

- Advanced braking systems and their components may be easily damaged by common modification, maintenance and servicing techniques, such as the use of rattle guns within one metre of the sensors. When undertaking any work on a vehicle fitted with an advanced braking system, ensure all modifiers are familiar with these systems and the precautions that must be taken.
- Ensure that before undertaking any modification on a vehicle that is fitted with an advanced braking system the modifier and approved vehicle examiner (AVE) consult with the vehicle manufacturer to determine the impact on the system.

Modification Code K1 — Seating capacity alteration, seat, seatbelt and anchorage installation

1. Scope

Modifications covered under this code:

Covered

- installation of approved seat anchorages
- installation of approved seats to approved seat anchorage points
- installation of approved seatbelt anchorages
- installation of seatbelts conforming to ADR 4/.. to approved seatbelt anchorage points
- removal of seats and seatbelts.

Not covered

- installation of non-approved seats
- installation of seatbelts that do not conform to ADR 4/..
- installation of non-approved seatbelt anchorages
- installation of seats or seatbelts to trailers.

2. Related standards

Modified vehicles must comply with all ADRs, Australian Standards, acts and regulations. Below are some but not all of the areas that may be affected by the modifications in this code and require certification testing or evidence to demonstrate compliance.

The certifier must ensure that the modified vehicle continues to comply with all related Australian Design Rules.

This…	Must comply with…
Installation of seats and anchorages	ADR 3/..
Installation of seatbelts and anchorages	ADR 4/.. ADR 5/..

3. Certification procedure

The certification procedure for this modification code is as follows:

1.	Modifier	Determine if the modification is: • installing/removing seats and seatbelts from or to existing positions (proceed to step 3) • installing seat anchorages or seatbelt anchorages (proceed to step 2).
2.	Modifier	Contact K2 AVE to obtain a K2 certified design for seat anchorage or seatbelt anchorage (including mount location).
3.	Modifier	Consult with an accredited K1 AVE for guidance on how to perform the modification.
4.	Modifier	Perform modification in accordance with AVE advice and this code.
5.	Modifier	Organise approval inspection by an accredited K1 AVE.
6.	K1 AVE	Perform inspection, complete K1 checklist and determine if compliance has been achieved. • If **yes**, proceed to step 7. • If **no**, do not proceed, advise modifier rework is required to ensure compliance. Return to step 3.
7.	K1 AVE	Issue modification certificate, affix modification plate, and submit paperwork as required by the relevant AVE registration scheme.

AVEs must be satisfied that the vehicle modification requirements are being met. It is advised that before modifications are carried out they are discussed with the certifying AVE.

4. Compliance requirements

Required:

- If a seat, seat anchorage, seatbelt or seatbelt anchorage is certified to ADR 3/.. , 4/.. , 5/.. or 68/.. (as applicable), ensure it complies fully with all relevant requirements; partial compliance is not acceptable.
- Review the approval of the seat, seat anchorage, seatbelt or seatbelt anchorage to verify that the combination is applicable to the modified vehicle.

➘ As a United Nations Economic Commission for Europe (UNECE) certification is vehicle specific, a certification may not be suitable for showing compliance where seat, seat anchorage, seatbelt or seatbelt anchorage of another type is fitted.

- Ensure all work is performed in accordance with recognised engineering standards.
- Do not perform modifications on any part of the cabin affected by rust, unless the rusted components are being repaired or replaced.
- Do not allow modifications that will permit fuel (liquid or vapour), exhaust or road fumes to enter the cabin.
- If a vehicle is modified for use as a motorhome, modify non-designated seating positions in accordance with Administrator's Circular 0-4-12 *Certification of Campervans and Motorhomes*.

Recommended:

- Where possible, duplicate specifications offered by the vehicle manufacturer.

5. Design requirements

Seats

Required:

- Install additional or replacement seats in accordance with the vehicle or seat manufacturer's instructions for existing seat and seat belt anchorages or anchorages in accordance with a VSB6 Modification Code K2 certification.
- If exchanging or converting one seat to another of an alternative manufacturer, or bench seats to bucket seats and vice versa, fit them in accordance with the manufacturer's guidelines.
- Where SRS airbags are fitted, ensure:
  - any replacement seat does not impede safe operation of the airbag
  - modifications are performed in accordance with the vehicle manufacturer's instructions
  - existing airbags are not de-activated or removed.
- Where a vehicle is certified as UNECE R29 compliant, ensure that any seating modifications are carried out in accordance with the manufacturer's recommendations and that UNECE R29 compliance is maintained.
- Where seats are installed in a part of the vehicle primarily designed to carry goods, i.e. utility or truck trays, ensure the seats are enclosed by means of a structure. Do not enclose them in a canopy or cage fitted to the vehicle unless it is an appropriately rated roll cage.

➘ Consult with all relevant regulators as there may be additional requirements given that this is a road rules requirement and may vary across jurisdictions.

- If a seat with an integral seatbelt is installed, ensure the seat anchorages are suitable for the additional load. This must be demonstrated by certification issued by the vehicle manufacturer or a K2 certification.
- Before the seat is installed, confirm the intended seat anchorages are rated appropriately for the mandated seat and seatbelt loads, as per ADR 3/.. , ADR 4/.. and ADR 5/.. .
- Ensure that additional seat(s) positioning is such that it is away from areas where there would be a high probability of injury to the occupant(s) in an accident.
- Ensure access to any additional seats is unimpeded.
- Ensure where any additional seats are installed, access to exits, access aisles, doors, door latches, folding seat controls, etc. is unobstructed.
- Ensure that seat backs, arm rests and other fittings are padded to minimise injury to occupants in an accident.
- Ensure all rearward facing seats fitted with irremovable head restraints.

Recommended:

- If seats are installed in a part of the vehicle primarily designed to carry goods, i.e. utility or truck trays, provide a substantial barrier that divides the passenger area from the cargo area. The barrier must comply with the performance standards of the Load Restraint Guide as prepared by the National Transport Commission (NTC) (http://www.ntc.gov.au/heavy-vehicles/safety/load-restraint-guide/).

Consult with relevant regulators as they may have additional requirements, given that this is a road rules requirement and may vary across jurisdictions.

6. Installation requirements

Seatbelt installation requirements

When a seatbelt is installed to an existing anchorage and neither the seatbelt manufacturer's and vehicle manufacturer's instructions for seatbelt installation are available, install the seatbelt in accordance with the following.

Required:

- Ensure the seatbelt complies with ADR 4/.. .
- Ensure that all additional or replacement seatbelts are in serviceable condition.
- Do not permit upper torso restraints on side facing seats, which must be fitted with lap belts only.
- Anchor seatbelts to anchorages using 7/16 inch UNF SAE Grade 8 bolts, which must be long enough to fully engage the thread of the anchorage or nut when tightened.
- The lower seatbelt anchorages must not be superimposed but anchored by separate bolts unless permitted by the manufacturer or certified in accordance with VSB6 Modification Code K2.
- Separate the anchorages provided for different seating positions by at least 200 mm.

Recommended:

- Ensure that seat belts are either of the same style as originally fitted by the truck manufacturer or upgraded to lap/sash type (except for side facing seats).
- Use a spacer to allow the seatbelt to rotate (see Figure 1).

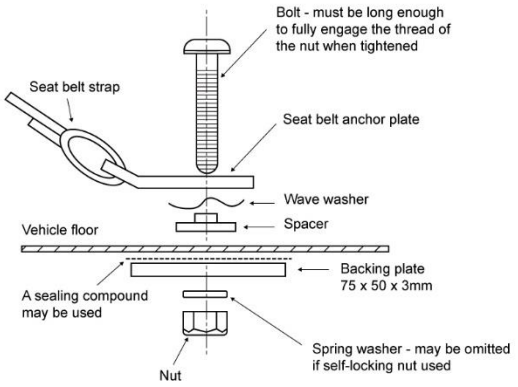

Figure 1: Typical seatbelt anchorage installation

Seat and seatbelt removal requirements

Required:

- When seating positions are permanently removed from the vehicle and its seating capacity reduced, certify the new seating capacity in accordance with this modification code.

A seat is considered to have been removed if it has been permanently decommissioned and cannot be used as a seating position. E.g., fitting a permanent armrest over an existing centre seating position.

- If a seating position is permanently removed, ensure the following:
  - blank off or block all holes in the bodywork
  - any supplementary restraint system (SRS) functions correctly as originally designed.

If any item is removed from the SRS, such as seat and seatbelts with pre-tensioners, the whole system may become inoperable. The modifier must consult the vehicle manufacturer for guidance when an SRS is fitted.

- If reducing the seating capacity results in a change of vehicle category, ensure a report is issued by a professional engineer registered with a professional registration body or a Vehicle Type Approval (VTA) registered agent showing that the vehicle complies with all ADRs that apply to the vehicle in its new category.
- When removing the seat ensure the seatbelt is also removed.

K1 Checklist —Seating capacity alteration, seat, seatbelt and anchorage installation (example)

K1 Checklist — Seating capacity alteration, seat, seatbelt and anchorage installation

This checklist is for use by approved vehicle examiners (AVEs) when assessing seating capacity alteration, and seat and seatbelt installation or removal.

Vehicle and modifier details

Vehicle make:	Vehicle model:	Month and year of manufacture:
VIN (if applicable):	**Vehicle chassis no. (if applicable):**	**Vehicle modifier (company name):**

Advanced braking systems

Braking systems	Check Yes, No, N/A as applicable:	Yes	No	N/A
1	Is the advanced braking system (where fitted) un-affected or re-certified after the vehicle modification?	☐	☐	☐

Modification details

Modification criteria	Check Yes or No as applicable:	Yes	No
1	Has the modification been performed in accordance with the manufacturer's guidelines?	☐	☐

Installation details

Seats	Check Yes, No, N/A as applicable:	Yes	No	N/A
1	Are all additional seats of an automotive type and have they been tested to meet the requirements of Australian Design Rule (ADR) 3/.. ?	☐	☐	☐
2	Do all replacement seats meet the strength requirements given in the clause/s relating to requirements in ADR 3/.. for the date of manufacture of the vehicle?	☐	☐	☐
3	Are the seats mounted on existing anchorage points in accordance with the manufacturer's instructions or Modification Code K2 certification instructions?	☐	☐	☐
4	If the additional or replacement seats are folding, hinged or have hinged backs, do they meet the requirements for these seats given in the clause/s relating to folding or hinged seats or seat backs of ADR 3/.. ?	☐	☐	☐
5	Are the occupants of seats installed in the trays of utilities or trucks provided with adequate rollover protection as required by this modification code?	☐	☐	☐
6	Are the additional seat(s) positioned away from areas where there would be a high probability of injury to the occupant(s) in an accident?	☐	☐	☐
7	Is access to additional seats unimpeded?	☐	☐	☐
8	Where any additional seats are installed, is access to exits, access aisles, doors, door latches, folding seat controls, etc. unobstructed?	☐	☐	☐
9	Are seat backs, arm rests and other fittings padded to minimise injury to occupants in an accident?	☐	☐	☐
10	Are all rearward facing seats fitted with irremovable head restraints?	☐	☐	☐
11	Does the supplementary restraint system (SRS), if fitted, continue to function correctly and as originally designed and intended?	☐	☐	☐
Seatbelts	**Check Yes, No, N/A as applicable:**	**Yes**	**No**	**N/A**
12	Are the seatbelts fitted in accordance with the anchorage system specified by ADR 5/.. ?	☐	☐	☐
13	Do new seatbelts comply with the requirements of ADR 4/.. ?	☐	☐	☐
14	Are the seatbelts fitted to existing approved anchorage points or to anchorage points certified under Modification Code K2 of VSB6?	☐	☐	☐
15	Are all replacement or additional seatbelts in serviceability condition?	☐	☐	☐
16	Does the supplementary restraint system (SRS), if fitted, continue to function correctly and as originally designed and intended?	☐	☐	☐
Removal of seat and seatbelts	**Check Yes, No, N/A as applicable:**	**Yes**	**No**	**N/A**
17	Have all holes in the bodywork been blanked off or blocked?	☐	☐	☐
18	Does the supplementary restraint system (SRS), if fitted, continue to function correctly and as originally designed and intended?	☐	☐	☐
19	If the reduction in seating capacity has resulted in a change of vehicle category, has the certifying AVE provided evidence in the form of a report that the vehicle complies with all of the ADRs that apply to the vehicle in its new category?	☐	☐	☐
20	Have both the seat and the seatbelt been removed?	☐	☐	☐

Vehicle chassis no./VIN:	Date:	Signed:

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K1 Checklist — Seating capacity alteration, seat, seatbelt and anchorage installation

This checklist is for use by approved vehicle examiners (AVEs) when assessing seating capacity alteration, and seat and seatbelt installation or removal.

Compliance

Modification	Check Yes, No as applicable:	Yes	No
1	Does this modification meet all the requirements of the manufacturer's guidelines / Modification Code K1?	☐	☐
2	Where seat or seatbelt anchorages are installed in accordance with Modification Code K2 certification, has a copy of the certificate and installation instructions be retained?	☐	☐
3	Is the quality of the work to an accepted industry standard?	☐	☐
4	Does the vehicle continue to comply with ADRs and heavy vehicle standards regulations affected by the modification?	☐	☐

Authorisation

Other than modification criteria, if the answer to any relevant question is NO the modification is not acceptable.			
Comments:			
Examined by:	**Company (if applicable):**		**AVE no.:**
Signed:	**Modification certificate no.:**	**Modification plate no.:**	**Date:**

Vehicle chassis no./VIN:	Date:	Signed:

Modification Code K2 — Certification of seat and of seatbelt anchorage

1. Scope

Modifications covered under this code:

Covered

- certification of seat anchorages
- certification of seatbelt anchorages.

Not covered

- seat and seat anchorage installation (see VSB6 Modification Code K1)
- seatbelt and seatbelt anchorage installation (see VSB6 Modification Code K1)
- child restraint anchorage installation (see VSB6 Modification Code K6)
- installation of seats or seatbelts to trailers.

2. Related standards

Modified vehicles must comply with all ADRs, Australian Standards, acts and regulations. Below are some but not all of the areas that may be affected by the modifications in this code and require certification testing or evidence to demonstrate compliance.

The certifier must ensure that the modified vehicle continues to comply with all related Australian Design Rules.

This…	Must comply with…
Certification of anchorage system (by either calculation or physical testing)	ADR 3/.. ADR 5/..

3. Certification procedure

The certification procedure for this modification code is as follows:

1.	Modifier	Contact K2 AVE to obtain a K2 certified design for seat anchorage or seatbelt anchorage (including mount location).
2.	K2 AVE	Develop seat anchorage or seatbelt anchorage design, including locations for each anchorage.
3.	K2 AVE	Validate that the anchorage design (including locations for each anchorage) meets the requirements of ADR 3/.. , 4/.. , or 5/.. (as applicable).
4.	K2 AVE	Provide K2 design certification, including all necessary details such as anchorage locations, bolt and anchorage construction dimension and material grades, to modifier.
5.	Modifier	Follow the certification procedure in VSB6 Modification Code K1 for the installation and certification of the installed seat or seatbelt anchorages.

AVEs must be satisfied that the vehicle modification requirements are being met. It is advised that before modifications are carried out they are discussed with the certifying AVE.

4. Compliance requirements

Required:

- If a seat anchorage or seatbelt anchorage is certified to ADR 3/.. or 5/.. , ensure it complies fully with all relevant requirements, partial compliance is not acceptable.
- Ensure all work is performed in accordance with recognised engineering standards.

Recommended:

- Include instructions in the K2 certification similar to :
  - Do not perform modifications on any part of the cabin affected by rust, unless the rusted components are being repaired or replaced.
  - Do not allow modifications to cause fuel leaks, exhaust or road fumes to enter the cabin.
- Where possible, duplicate specifications offered by the vehicle manufacturer.

5. Design requirements

Seat anchorages

Required

- If seatbelt anchorages are fixed to the seat assembly, ensure they resist anchorage loads as required by ADR 5/.. in addition to the seat loads.
- Where seat anchorages are designed to be located on weak structures such as wooden floors, ensure they are designed so that they are anchored to the vehicle structure using steel members of adequate design (e.g. C section, channel section or rectangular hollow section).
- Ensure seat anchorages can withstand load requirements specified in ADR 3/.. as applicable.
- Ensure seat anchorages are physically tested or fully certified by engineering calculations in accordance with ADR 3/.. as applicable.
- Provide comprehensive and easily understood installation instructions for the seat anchorages to allow an accredited K1 AVE to certify their installation.

Seatbelt anchorages

Required

- Ensure seatbelt anchorages meet the strength and location requirements stated in ADR 5/.. as applicable.
- Where seatbelt anchorages are designed to be located on weak structures such as wooden floors, ensure they are designed so that they are anchored to the vehicle structure using steel members of adequate design (e.g. C section, channel section or rectangular or hollow section).
- Ensure seatbelt anchorages are physically tested, fully certified by engineering calculations or by design in accordance with and as permitted by the applicable ADR 5/.. .
- Provide comprehensive and easily understood installation instructions for the seatbelt anchorages to allow an accredited K1 AVE to certify their installation.
- Fit all side facing seats only with lap belts.
- Design the seatbelt anchorages to use 7/16 inch UNF SAE Grade 8 bolts, which are long enough to fully engage the thread of the anchorage or nut when tightened.

K2 Checklist — Certification of seat and of seatbelt anchorage (example)

K2 Checklist — Certification of seat and of seat belt anchorage

This checklist is for use by approved vehicle examiners (AVEs) when assessing and certifying seat and seat belt anchorages.

Vehicle and modifier details

Vehicle make:	Vehicle model:	Month and year of manufacture:
VIN (if applicable):	**Vehicle chassis no. (if applicable):**	**Vehicle modifier (company name):**

Advanced braking systems

Braking systems	Check Yes, No, N/A as applicable:	Yes	No	N/A
1	Is the advanced braking system (where fitted) un-affected or re-certified after the vehicle modification?	☐	☐	☐

Modification details

Modification criteria	Check Yes or No as applicable:	Yes	No
1	Has the modification been performed in accordance with the manufacturer's guidelines?	☐	☐

Installation details

Certification of seat anchorages	Check Yes, No, N/A as applicable:	Yes	No	N/A
1	Do the seat anchorages meet the strength requirements of Australian Design Rule (ADR) 3/.. ?	☐	☐	☐
2	Are seat anchorages which are located over weak structures, such as wooden floors, adequately attached to the vehicle structure (i.e. with C section, channel section or RHS steel members)?	☐	☐	☐
3	Are the instructions for the installation of any new seat anchorages and associated modifications comprehensive and easily understood?	☐	☐	☐
4	Is a detailed testing report or are detailed calculations available, demonstrating that the seat anchorage complies with the strength and deflection requirements of ADR 3/.. ?	☐	☐	☐
5	Have all of the above detailed instructions been made available for the purpose of certifying Modification Code K1 modifications?	☐	☐	☐
Seat belt anchorages installation	**Check Yes, No, N/A as applicable:**	**Yes**	**No**	**N/A**
6	Do the seatbelt anchorages meet the strength requirements of ADR 5/.. ?	☐	☐	☐
7	Are seatbelt anchorages which are located over weak structures, such as wooden floors, adequately attached to the vehicle structure (i.e. with C section, channel section or RHS steel members)?	☐	☐	☐
8	Are all anchorage bolts specified as 7/16 inch UNF SAE Grade 8?	☐	☐	☐
9	Are the seatbelt anchor points for each particular seating position located in accordance with the specifications in the clause/s relating to the location of anchor points, sash location points or upper torso anchorage points of ADR 5/.. ?	☐	☐	☐
10	Are all side-facing seating positions fitted with lap belts only?	☐	☐	☐
11	Does the location of the seat belt anchorages meet the applicable safety requirements of ADR 5/.. ?	☐	☐	☐
12	Are the instructions for the installation of any new seatbelt anchorages and associated modifications comprehensive and easily understood?	☐	☐	☐
13	Is a detailed testing report or are detailed calculations available demonstrating that the seatbelt anchorages comply with the strength and location requirements of ADR 5/.. ?	☐	☐	☐
14	Have all of the above detailed instructions been made available for the purpose of certifying Modification Code K1 modifications?	☐	☐	☐

Compliance

Modification	Check Yes or No as applicable:	Yes	No
1	Does this modification meet all the requirements of the manufacturer's guidelines / Modification Code K2?	☐	☐
2	Is the quality of the work to an accepted industry standard?	☐	☐
3	Does the vehicle continue to comply with ADRs and heavy vehicle standards regulations affected by the modification?	☐	☐

Vehicle chassis no./VIN:	Date:	Signed:

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K2 Checklist — Certification of seat and of seat belt anchorage

This checklist is for use by approved vehicle examiners (AVEs) when assessing and certifying seat and seat belt anchorages.

Authorisation

Other than modification criteria, if the answer to any relevant question is NO the modification is not acceptable.		
Comments:		
Examined by:	**Company (if applicable):**	**AVE no.:**
Signed:	**Modification certificate no.:**	**Date:**

Vehicle chassis no./VIN:	Date:	Signed:

Modification Code K3 — Cabin conversion

1. Scope

Modifications covered under this code:

Covered
• removal of existing cabin and replacement with an alternative, including with a cabin of the same make, model and year of manufacture • repositioning of existing steering column • repositioning of existing accelerator, brake and clutch controls • repositioning of the existing gear change mechanism • construction and installation of new cabin • extending or shortening of existing cabin • any other significant modifications to the cabin, including cutting of the cabin or sleeper for cooling/ventilation/windows • change in cabin roof profile.
Not covered
• fitting omnibus body on truck chassis (see VSB6 Section J — Body). • fitting components not compatible with original vehicle components • welding of components not in accordance with VSB6 • fitting components not designed for automotive on-road use • modifications to steering column or gear change mechanism • fitting additional or alternate seats, seat anchorages, seatbelts and seatbelt anchorages (see VSB6 modification codes K1 and K2) • modifications to cabins that are UNECE R29 certified unless performed to the manufacturer's instructions and validated to the original UNECE R29 certification • modifications that reduce the structural integrity of the cab or transmission tunnel where fitted.

2. Related standards

Modified vehicles must comply with all ADRs, Australian Standards, acts and regulations. Below are some, but not all of the areas that may be affected by the modifications in this code and require certification testing or evidence to demonstrate compliance.

The certifier must ensure that the modified vehicle continues to comply with all related Australian Design Rules.

This…	Must comply with…
Removal and replacement of cabin	Good engineering practice
Reposition steering, accelerator, brake and clutch controls	Good engineering practice
Reposition gear change linkages	Good engineering practice
Exhaust system alteration	VSB6 Modification Code A4
Steering system alteration	VSB6 Modification Code E2
Brake line relocation	VSB6 Modification Code G1
Chassis alteration	VSB6 Modification Code H4
Extension/shortening of cabin	Good engineering practice
Change in roof profile	Good engineering practice
Doors	ADR 2, 2/..
Turn indicators	ADR 6, 6A, 6/..
Glass	ADR 8, 8/..
Internal sun visors	ADR 11, 11/..
Glare reduction	ADR 12, 12/.. (this standard ceased to have effect for new vehicles from 9 December 2003)
Vehicle lighting	ADR 13/..
Rear vision mirrors	ADR 14, 14/..
Demisting of windscreens	ADR 15, 15/..
Windscreen wipers and washers	ADR 42/.. (formerly ADR 16, 16/.. - ceased to have effect for new vehicles from 9 December 2003)
Instrumentation	ADR 18, 18A, 18/..
Instrument panels	ADR 21, 21/..
Structure	Good engineering practice
Field of view and external and internal protrusions	ADR 42/..
Front underrun impact protection	ADR 84/..
External Projections	ADR 92/..

3. Certification procedure

The certification procedure for this modification code is as follows:

1.	Modifier	Determine if the modification is within manufacturer specifications. • If **yes**, the modification will need to be done in accordance with manufacturer specifications. • If **no**, the modification will need to be done in accordance with this modification code.
2.	Modifier	Consult with an accredited K3 AVE for guidance on how to perform the modification.
3.	Modifier	Perform modification in accordance with AVE advice and this code.
4.	Modifier	Organise approval inspection by an accredited K3 AVE.
5.	K3 AVE	Perform inspection, complete K3 checklist and determine if compliance has been achieved. • If **yes**, proceed to step 6. • If **no**, do not proceed, advise modifier rework is required to ensure compliance. Return to step 2.
6.	K3 AVE	Issue modification certificate, affix modification plate, and submit paperwork as required by the relevant AVE registration scheme.

AVEs must be satisfied that the vehicle modification requirements are being met. It is advised that before modifications are carried out they are discussed with the certifying AVE.

4. Compliance requirements

Required:

If the vehicle manufacturer's instructions are not available, complete the cabin modification in accordance with the following requirements, even if an existing cabin is removed and replaced with a cabin of the same make, model and year:

- Ensure the modified cabin complies with all ADRs that applied to the original cabin.
- Ensure that if the exhaust is modified it is in accordance with and certified to VSB6 Modification Code A4.
- Ensure that any alterations to the steering system are in accordance with and certified to VSB6 Modification Code E2.
- Re-position brake control valves in accordance with and certify them to VSB6 Modification Code G1.
- Ensure that any chassis alterations are in accordance with and certified to VSB6 Modification Code H4.
- Other than where the cabin is converted to an island cab, 3/4 cab, or similar, where the cabin was manufactured to comply with UNECE R29 perform all modifications in accordance with manufacturer's instructions and validate the modifications ongoing compliance with UNECE R29.
- Keep a copy of the validation or new UNECE R29 compliance report with the modification certificate.
- Mount the cabin in accordance with recognised engineering practices using the same method as the original mount.
- Do not allow the modification to compromise the structural integrity of the cabin.
- Ensure the modified vehicle complies with all applicable dimensional requirements.

Recommended:

- If a cabin is converted to an island cab, 3/4 cab, or similar, and the cabin was manufactured to comply with UNECE R29, perform all modifications in accordance with the manufacturer's instructions and validate the modification's ongoing compliance with UNECE R29.

5. Design requirements

Required:

- If a seat, seat anchorage, or seatbelt anchorage is certified to ADR 3/.. , 4/.. , or 5/.. , ensure it complies fully with all relevant requirements; partial compliance is not acceptable.
- Ensure all work is performed in accordance with recognised engineering standards.
- Do not perform modifications on any part of the cabin affected by rust, unless the rusted components are being repaired or replaced.
- Do not allow modifications that will permit fuel (liquid or vapour), exhaust or road fumes to enter the cabin.
- If seats are installed in a part of the vehicle primarily designed to carry goods, i.e. utility or truck trays, ensure the seats are enclosed by means of a structure. Do not enclose them in a canopy or cage fitted to the vehicle unless it is an appropriately rated roll cage.

↘ Consult with relevant regulators as they may have additional requirements, given that this is a road rules requirement and may vary across jurisdictions.

Recommended:

- If seats are installed in a part of the vehicle primarily designed to carry goods, i.e. utility or truck trays, provide a substantial barrier that divides the passenger area from the cargo area. The barrier must comply with the performance standards of the Load Restraint Guide as prepared by the NTC (http://www.ntc.gov.au/heavy-vehicles/safety/load-restraint-guide/).
- Where possible, duplicate specifications offered by the vehicle manufacturer.

6. Installation requirements

Replacement cabins

Required:

- When replacing a cabin in accordance with this modification code, ensure the replacement is compatible with that of the original vehicle.
- If replacing a cabin results in a vehicle with more than one unique identifier, i.e. chassis number, vehicle identification number (VIN) or identification, or compliance plate, obtain a surrogate VIN and ensure that identification plates are not removed from the vehicle or the replacement cabin.
- Obtain the surrogate VIN or chassis number from the vehicle registering authority and use this to identify and register the newly modified vehicle.
- Ensure the modification plate for cabin conversion shows the new surrogate VIN or chassis number.
- Stamp the surrogate VIN or chassis number on both the chassis and on the modification plate.

↘ It is an offence to remove or tamper with identification plates or identifying numbers such as the VIN or chassis number.

Reposition cabin controls

Required:

- If replacement controls are used, the certifying AVE assesses them to ensure the mechanism is adequately strong and operable.
- If the steering column, accelerator, brake or clutch controls are repositioned, ensure they can be operated through the full working range from the driver's normal driving position.

Recommended:

- If desired, use original components where the steering column, accelerator, brake or clutch controls are repositioned.

Reposition gear change linkage

Required:

- If replacing the gear change mechanism, ensure the mechanism is adequately strong and operable.
- If the gear change mechanism is repositioned ensure it can be operated through the full working range from the driver's normal driving position.

Recommended:

- If the gear change mechanism is repositioned, the original components may be used.

K3 Checklist — Cabin conversion (example)

K3 Checklist — Cabin Conversion

This checklist is for use by approved vehicle examiners (AVEs) when assessing and certifying cabin conversions.

Vehicle and modifier details

Vehicle make:	Vehicle model:	Month and year of manufacture:
VIN (if applicable):	**Vehicle chassis no. (if applicable):**	**Vehicle modifier (company name):**

Advanced braking systems

Braking systems	Check Yes, No, N/A as applicable:	Yes	No	N/A
1	Is the advanced braking system (where fitted) un-affected or re-certified after the vehicle modification?	☐	☐	☐

Modification details

Modification criteria	Check Yes or No as applicable:	Yes	No
1	Has the modification been performed in accordance with the manufacturer's guidelines?	☐	☐

Conversion details

Removal and replacement of cabin	Check Yes, No, N/A as applicable:	Yes	No	N/A
1	Is the replacement cabin compatible with the original vehicle?	☐	☐	☐
2	Does the vehicle have only one unique identifying number, such as a chassis number, VIN or identification/compliance plate OR is the vehicle marked with a surrogate VIN?	☐	☐	☐
Reposition steering, accelerator, brake and clutch controls	**Check Yes, No, N/A as applicable:**	**Yes**	**No**	**N/A**
3	Where the steering column, accelerator, brake or clutch controls are repositioned, are the original components used or has the modification mechanism been assessed by the certifying AVE to be of adequate strength and operability?	☐	☐	☐
4	Where the steering column, accelerator, brake and/or clutch controls are repositioned, are they operable through the full working range from the driver's normal driving position?	☐	☐	☐
Repositioning of gear change linkages	**Check Yes, No, N/A as applicable:**	**Yes**	**No**	**N/A**
5	Where the gear change mechanism is repositioned, are original components used or has the replacement gear change mechanism been assessed by the certifying AVE that the mechanism is of adequate strength and operability?	☐	☐	☐
6	Is the gear change mechanism operable through the full working range from the driver's normal driving position?	☐	☐	☐
General	**Check Yes, No, N/A as applicable:**	**Yes**	**No**	**N/A**
7	Are all newly fitted components compatible with the original vehicle components and designed for automotive use?	☐	☐	
8	Is the cabin sealed against the ingress of exhaust and/or fuel leaks?	☐	☐	
9	Is the exhaust system modified in accordance with and certified to VSB6 Modification Code A4?	☐	☐	☐
10	Are all alterations to the steering system performed in accordance with and certified to VSB6 Modification Code E2?	☐	☐	☐
11	Are all re-positioned brake control valves re-positioned in accordance with and certified to VSB6 Modification Code G1?	☐	☐	☐
12	Are all chassis alterations performed in accordance with and certified to VSB6 Modification Code H4?	☐	☐	☐
13	Are all other modifications performed in accordance with the relevant sections of VSB6?	☐	☐	☐
14	If the cabin complies with UNECE R29, have all modifications to the cabin been performed in accordance with the manufacturer's instructions and validated to the original compliance with UNECE R29 or has the modified cabin been re-assessed as continuing to comply with UNECE R29?	☐	☐	☐
15	Has a copy of the validation or new compliance report referred to in item 14 above been kept with the modification certificate?	☐	☐	☐
16	Is the cabin mounted to the vehicle appropriately?	☐	☐	☐
17	Is the structural integrity of the cabin uncompromised by the modifications?	☐	☐	
18	Does the vehicle continue to comply with all applicable dimensional requirements?	☐	☐	

Vehicle chassis no./VIN:	Date:	Signed:

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K3 Checklist — Cabin Conversion

This checklist is for use by approved vehicle examiners (AVEs) when assessing and certifying cabin conversions.

Compliance

Modification	Check Yes, No as applicable:	Yes	No
1	Does this modification meet all the requirements of the manufacturer's guidelines / Modification Code K3?	☐	☐
2	Is the quality of the work to an accepted industry standard?	☐	☐
3	Does the vehicle continue to comply with ADRs and heavy vehicle standards regulations affected by the modification?	☐	☐

Authorisation

Other than modification criteria, if the answer to any relevant question is NO the modification is not acceptable.

Comments:	

Examined by:	Company (if applicable):		AVE no.:
Signed:	**Modification certificate no.:**	**Modification plate no.:**	**Date:**

Vehicle chassis no./VIN:	Date:	Signed:

Modification Code K5 — Installation of wheelchair occupant restraint system

1. Scope

Modifications covered under this code:

Covered

- installation of wheelchair occupant restraint assemblies and anchorages complying with AS/NZS 10542.1 Technical systems and aids for people with disability.

Not covered

- installation of non-approved wheelchair restraint systems
- installation of seats or seatbelt assemblies and their anchorages
- installation of wheelchair occupant restraint assemblies and anchorages to trailers.

2. Related standards

Modified vehicles must comply with all ADRs, Australian Standards, acts and regulations. Below are some but not all of the areas that may be affected by the modifications in this code and require certification testing or evidence to demonstrate compliance.

The certifier must ensure that the modified vehicle continues to comply with all related Australian Design Rules.

This…	Must comply with…
Seat mountings	ADR 3/..
Seatbelt anchorages	ADR 5/..
Seatbelts	ADR 4/..
Wheelchair restraints	AS/NZS 10542.1

3. Certification procedure

The certification procedure for this modification code is as follows:

1.	Modifier	Determine if the modification is within manufacturer specifications. • If **yes**, the modification will need to be done in accordance with manufacturer specifications. • If **no**, the modification will need to be done in accordance with this modification code.
2.	Modifier	Consult with an accredited K5 AVE for guidance on how to perform the modification.
3.	Modifier	Consult with an AVE who is accredited to certify any other modification for guidance on how any modification is required to be performed. Follow the certification procedure in each applicable modification code. For example, where a wheelchair loader has been installed, refer to an accredited R2 AVE and VSB6 Modification Code R2.
4.	Modifier	Perform modification in accordance with AVE advice and this code.
5.	Modifier	Organise approval inspection by an accredited K5 AVE.
6.	K5 AVE	Perform inspection, complete K5 checklist and determine if compliance has been achieved. • If **yes**, proceed to step 6. • If **no**, do not proceed, advise modifier rework is required to ensure compliance. Return to step 2.
7.	K5 AVE	Issue modification certificate, affix modification plate, and submit paperwork as required by the relevant AVE registration scheme.

AVEs must be satisfied that the vehicle modification requirements are being met. It is advised that before modifications are carried out they are discussed with the certifying AVE.

4. Compliance requirements

Required:

- Ensure all work is performed in accordance with recognised engineering standards.
- Do not perform modifications on any part of the cabin affected by rust, unless the rusted components are being repaired or replaced.
- Do not allow modifications that will permit fuel (liquid or vapour), exhaust or road fumes to enter the cabin.
- If wheelchair occupant restraint systems are installed in a part of the vehicle primarily designed to carry goods, i.e. utility or truck trays, ensure the seats are enclosed by means of a structure. Do not enclose them in a canopy or cage fitted to the vehicle unless it is an appropriately rated roll cage.

↘ Consult with relevant regulators as they may have additional requirements given that this is a road rules requirement and may vary across jurisdictions.

- If a vehicle is modified for use as a motorhome, modify non-designated seating positions in accordance with Administrator's Circular 0-4-12 *Certification of Campervans and Motorhomes*.

Recommended:

- If wheelchair occupant restraint systems are installed in a part of the vehicle primarily designed to carry goods, i.e. utility or truck trays, provide a substantial barrier that divides the passenger area from the cargo area. The barrier must comply with the performance standards of the Load Restraint Guide as prepared by the NTC (http://www.ntc.gov.au/heavy-vehicles/safety/load-restraint-guide/).
- Where possible, duplicate specifications offered by the vehicle manufacturer.

5. Design requirements

Restraint

A vehicle usually requires reinforcement at the mounting points for wheelchair and occupant restraint anchorages. The type of reinforcement required will depend on the applied loads and the strength of the vehicle structure in their vicinity.

Required:

- Ensure the wheelchair restraints and wheelchair occupant restraint assemblies and sub-assemblies comply with the requirements of Australian Standards AS/NZS 10542.1 Technical systems and aids for people with disability with regards to the following:
  - design
  - construction
  - installation
  - installation location
  - marking and packaging
  - location of occupant restraint anchorages.
- Ensure wheelchair and occupant restraint anchorage points are of adequate strength to withstand all anticipated conditions of loading and follow the requirements of AS/NZS 10542.1.

- If weak structures such as wooden floors are used, extend reinforcing plates and fully weld these to the nearest body bearer or cross-member of the vehicle.
- Secure all wheelchair and occupant restraint anchorage points with high tensile bolts that fully engage the threads of the nuts.
- Use self-locking or captive type nuts.

Transport of wheelchair

Required:

- Ensure a vehicle used to carry more than one, or a variety of wheelchairs, is fitted with emergency exits in accordance with ADR 44/.. , 58/.. or state or territory passenger transport requirements (as applicable).

Recommended:

- Ensure vehicles used to carry more than one or a variety of wheelchairs satisfies the following minimum dimensional requirements (based on AS/NZS 10542.1):
  - For wheelchair access minimum doorway width = 800 mm.
  - For wheelchair access minimum doorway height = 1400 mm.
  - Minimum internal headroom = 1500 mm.
- For vehicles used to provide passenger transport services, ensure the vehicle also complies with any requirements imposed by state or territory passenger transport authorities.
- To allow wheelchair occupants a clear view of surroundings, extend vehicle windows up to a minimum 1400 mm height from the vehicle floor.

K5 Checklist — Installation of wheelchair occupant restraint system (example)

K5 Checklist — Installation of wheelchair occupant restraint system

This checklist is for use by approved vehicle examiners (AVEs) when assessing and certifying installation of wheelchair occupant restraint systems.

Vehicle and modifier details

Vehicle make:	Vehicle model:	Month and year of manufacture:
VIN (if applicable):	**Vehicle chassis no. (if applicable):**	**Vehicle modifier (company name):**

Advanced braking systems

	Braking systems — Check Yes, No, N/A as applicable:	Yes	No	N/A
1	Is the advanced braking system (where fitted) un-affected or re-certified after the vehicle modification?	☐	☐	☐

Modification details

	Modification criteria — Check Yes or No as applicable:	Yes	No
1	Has the modification been performed in accordance with the manufacturer's guidelines?	☐	☐

Installation details

	Wheelchair occupant restraint system — Check Yes, No, N/A as applicable:	Yes	No	N/A
1	Are the wheelchair restraints and wheelchair occupant restraints designed and constructed in accordance with the relevant section/s of AS/NZS 10542.1 *Technical systems and aids for people with disability*?	☐	☐	
2	Are the wheelchair occupant restraint assemblies and subassemblies marked and packaged in accordance with the relevant section/s of AS/NZS 10542.1 *Technical systems and aids for people with disability*?	☐	☐	
3	Are the wheelchair restraint and wheelchair occupant restraint systems installed in accordance with the manufacturer's instructions and in accordance with the relevant sections of AS/NZS 10542.1 *Technical systems and aids for people with disability*?	☐	☐	
4	Are the wheelchair restraint and wheelchair occupant restraint systems positioned so as to satisfy the restraint system manufacturer's clear space requirements, in accordance with the relevant section/s of AS/NZS 10542.1 *Technical systems and aids for people with disability*?	☐	☐	
5	Are the wheelchair and occupant restraint anchorage points of strength adequate to withstand all anticipated conditions of loading?	☐	☐	
6	In the case of a weak structure, such as a timber floor, are the anchorage reinforcing plates extended and fully welded to the nearest body bearer or cross member of the vehicle?	☐	☐	
7	Are all wheelchair and occupant restraints anchored with high tensile bolts that fully engage the thread of the nuts?	☐	☐	
8	Are self-locking or captive type nuts and washers used at all anchorages?	☐	☐	
9	Do all emergency exits meet the requirements of VSB6?	☐	☐	

Compliance

	Modification — Check Yes or No as applicable:	Yes	No
1	Does this modification meet all the requirements of the manufacturer's guidelines / Modification Code K5?	☐	☐
2	Is the quality of the work to an accepted industry standard?	☐	☐
3	Does the vehicle continue to comply with ADRs and heavy vehicle standards regulations affected by the modification?	☐	☐

Authorisation

Other than modification criteria, if the answer to any relevant question is NO the modification is not acceptable.

Comments:			
Examined by:	**Company (if applicable):**		**AVE no.:**
Signed:	**Modification certificate no.:**	**Modification plate no.:**	**Date:**

Vehicle chassis no./VIN:	Date:	Signed:

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Modification Code K6 — Child restraint anchorage installation

1. Scope

Modifications covered under this code:

Covered

- location and installation of child restraint anchorage into vehicles
- installation of an anchor bar, vertical post, universal frame or twin cab device for child restraint.

Not covered

- installation of restraints that have not been tested or approved to ADR 34/..
- installation of seatbelts — see VSB6 Modification Code K1.

2. Related standards

Modified vehicles must comply with all ADRs, Australian Standards, acts and regulations. Below are some but not all of the areas that may be affected by the modifications in this code and require certification testing or evidence to demonstrate compliance.

The certifier must ensure that the modified vehicle continues to comply with all related Australian Design Rules.

This…	Must comply with…
Seat and seat anchorages	ADR 3/..
Seatbelts	ADR 4/..
Anchorages for seatbelts	ADR 5/..
Child restraint anchorages and child restraint anchor fittings	ADR 34/..

3. Certification procedure

The certification procedure for this modification code is as follows:

1.	Modifier	Determine if the modification is within manufacturer specifications. • If **yes**, the modification will need to be done in accordance with manufacturer specifications. • If **no**, the modification will need to be done in accordance with this modification code.
2.	Modifier	Consult with an accredited K6 AVE for guidance on how to perform the modification.
3.	Modifier	Perform modification in accordance with AVE advice and this code.
4.	Modifier	Organise approval inspection by an accredited K6 AVE.
5.	K6 AVE	Perform inspection, complete G1 checklist and determine if compliance has been achieved. • If **yes**, proceed to step 6. • If **no**, do not proceed, advise modifier rework is required to ensure compliance. Return to step 2.
6.	K6 AVE	Issue modification certificate, affix modification plate, and submit paperwork as required by the relevant AVE registration scheme.

AVEs must be satisfied that the vehicle modification requirements are being met. It is advised that before modifications are carried out they are discussed with the certifying AVE.

4. Compliance requirements

Required:

- If a seat, seat anchorage, or seatbelt anchorage is certified to ADR 3/.. , 4/.. , or 5/.. , ensure it complies fully with all relevant requirements; partial compliance is not acceptable.
- Ensure all work is performed in accordance with recognised engineering standards.
- Do not perform modifications on any part of the cabin affected by rust, unless the rusted components are being repaired or replaced.
- Do not allow modifications that will permit fuel (liquid or vapour), exhaust or road fumes to enter the cabin.
- If seats are installed in a part of the vehicle primarily designed to carry goods, i.e. utility or truck trays, ensure the seats are enclosed by means of a structure. Do not enclose them in a canopy or cage fitted to the vehicle unless it is an appropriately rated roll cage.

↘ Consult with relevant regulators as they may have additional requirements given that this is a road rules requirement and may vary across jurisdictions.

- If a vehicle is modified for use as a motorhome, modify non-designated seating positions in accordance with Administrator's Circular 0-4-12 *Certification of Campervans and Motorhomes*.
- Do not install a child restraint anchorage in a front row seat where a supplementary restraint system (SRS) airbag is fitted.

Recommended:

- Where possible, duplicate specifications offered by the vehicle manufacturer.

5. Installation requirements

Restraint requirements

Recommended:

- Ensure drilling and location of anchor points in vehicles where ADR 34 or ADR 34/.. does not apply, are in accordance with this code.
- Install restraint anchorage equipment such as child restraint anchorage (CRA) bars, vertical posts, universal frames or twin cab devices in accordance with the requirements of this code.
- Install seatbelts in accordance with VSB6 Modification Code K1.
- Ensure that seatbelts used in conjunction with child restraints are in serviceable condition.
- Only use ADR 34/.. compliant child restraints and restraint anchorage systems.
- Perform all work in accordance with recognised engineering standards.

Rear parcel shelf anchorages requirements

Required:

Only install child restraint anchorages in the form of anchor bolt kits in vehicles where ADR 34 or ADR 34/.. does not apply if:

- an AVE provides a report that confirms that the rear seats and its attachments can withstand forces generated during a crash
- the restraint uses a standard anchor bracket and anchor bolt kit. Anchor bolt kits require a 9 mm diameter hole to be drilled in the rear parcel shelf; ensure that the hole is:
  - drilled through a substantially flat, structurally sound, rust free section of metal

- located more than 50 mm from any existing hole in the metal and within 40 mm of the longitudinal centreline of the seating position (see Figure 2)
- located a position to allow the top tether strap to be adjusted easily and to allow easy engagement and disengagement of the anchorage fitting to the anchor bolt.

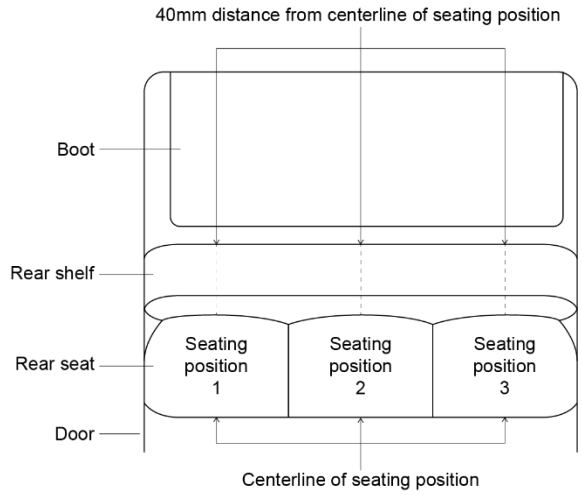

Figure 2: Anchorage positions

Recommended:

Use all components of the anchor bolt kit, and bring the spreader plate washer to bear on a flat surface on the underside of the parcel shelf.

↘ Rear seats of vehicles where ADR 34 and ADR 34/.. do not apply may not be designed to resist the forces generated during a crash and consequently rear seat-back failure may occur. If a report from an AVE is not provided to confirm the appropriateness of the rear seat for use with an anchor bolt kit, then consider using alternative mounting structures such as CRA bars or vertical posts.

Child restraint anchorage bar requirements

The majority of heavy vehicles do not have a rear parcel shelf so the most suitable child restraint device is likely to be a CRA bar (see Figure 3). The CRA bar can incorporate anchorage points for up to three children, each of whom does not have a restrained mass (mass of child combined with the mass of the restraint tethered to the bar) exceeding 32.5 kg.

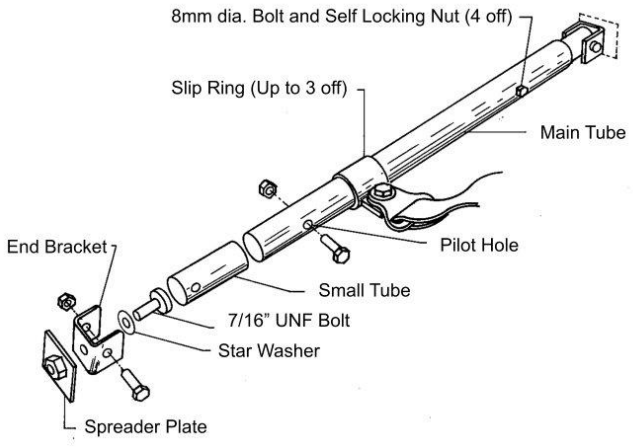

Figure 3: Child restraint anchorage bar

Required:

- Use a CRA bar of appropriate width to suit the vehicle.
- If using a telescopic CAR bar, shorten it to suit smaller vehicles by cutting the main tube and re-drilling the pilot hole to suit (see Figure 3). Ensure the tube is not reduced in length by more than 100 mm of the distance between the proposed CRA bar anchor points.
- Install and modify the anchor bar in accordance with manufacturer instructions.
- Fit the CRA bar not less than 200 mm behind and not more than 100 mm below the top rear edge of the seat back (see Figure 4).

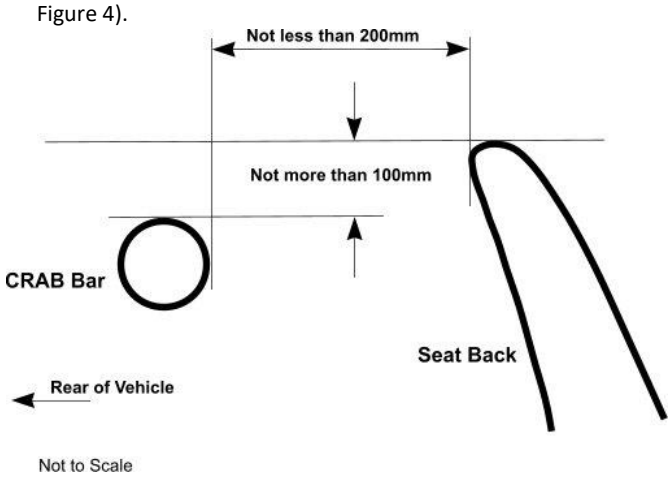

Figure 4: CRA bar location relative to seat back

- Allow sufficient clearance between the inner and outer body panels to accommodate the 7/16" UNF mounting bolt without it fouling the outer panels.
- Ensure the spreader plate has a flat surface on which to bear when positioned behind the panel. Failure to do this will result in distortion of the panel, which may lead to failure of the anchorage system in the event of a crash.
- Drill a 12 mm hole through the inner body panel and install end bracket and spacer (if required) and spreader plate using 7/16" UNF bolt (see Figure 5).

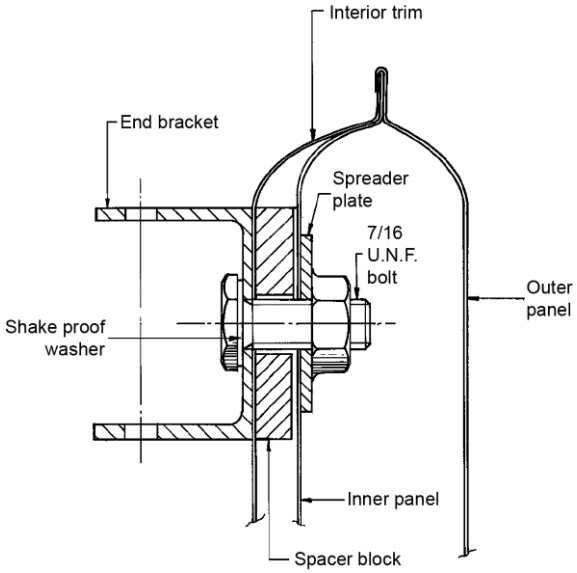

Figure 5: Child restraint anchorage bar attachment

- Unless supported by an engineering report, do not use the CRA bar in vehicles with aluminium or composite body panels. For these vehicles, a vertical post may be a suitable alternative.

Vertical post requirements

The vertical post (Figure 6) is an alternative to the CRA bar. It provides a single anchorage point and is suitable for any height of seat back as approved by the post manufacturer, typically up to 640 mm. The device can be an anchorage for installing child seats and child safety harnesses.

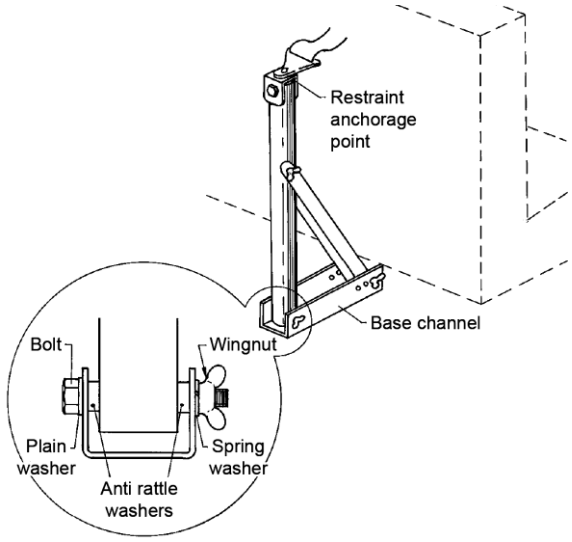

Figure 6: Vertical post

Required:

- Install the post in accordance with manufacturer instructions.
- Ensure the centreline of the post lies within 40 mm of the longitudinal centreline of the child restraint when installed in the required seating position.
- Utilise load spreader plates.
- For corrugated floors, position the base channel so that holes are drilled through the bottom of the vee. Use spacers to fill the depth of the vee (see Figure 7).
- Reduce the vertical tube in height to suit seat back heights. Under no circumstances allow the anchorage point to be more than 100 mm below the top of the seat back.

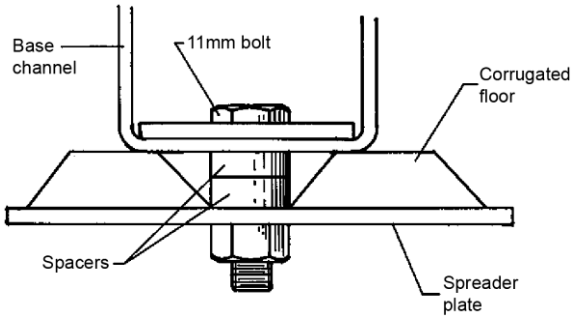

Figure 7: Vertical post attachment

Universal frame requirements

A universal frame (refer to Figure 8) is typically used in heavy vehicles to accommodate most child seats. While it has been designed for installation in the rear of vehicles with a single steel floor pan, it may be possible to install it on vehicles with raised false floors, provided the cavity between the false floor and floor pan can be accessed.

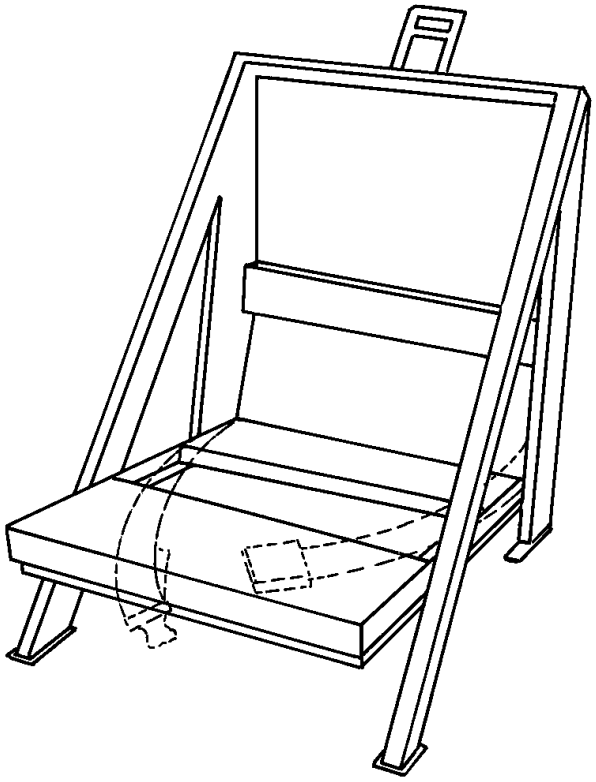

Figure 8: Universal frame

Required:

- Do not use the universal frame for any purpose other than that for which it was designed.
- Install the universal frame in accordance with manufacturer's instructions and do not modify it in any way.
- Only use the frame for child seats and install it in the normal forward facing position.
- Secure the frame using high tensile bolts with suitable locking devices such as shake-proof washers.
- Utilise spreader plates and spacers to fill in the depth of the vee in corrugated floors (see Figure 9).

Recommended

- Position the frame as close as possible behind the front seats to ensure good access to the child restraint and the child, while allowing sufficient space between vehicle seats and the frame for the child's legs and feet.

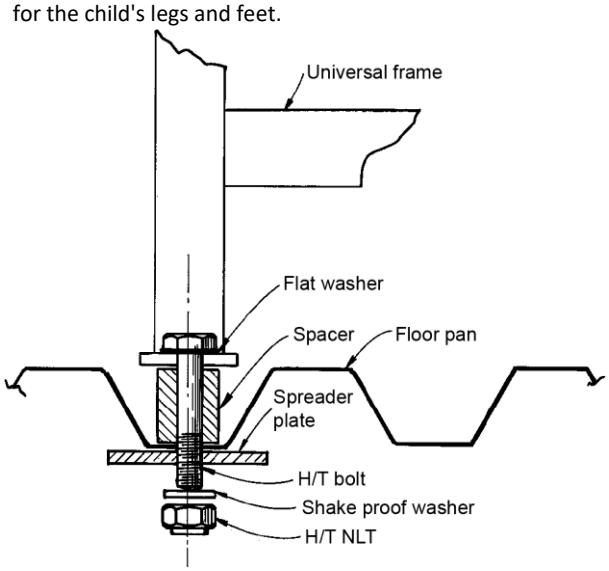

Figure 9: Universal frame attachment

Dual cab anchorage requirements

Anchorages for child seats and capsules (see Figure 10) may be provided in twin cab or dual cab vehicles using a dual cab anchorage (DCA). The device is suitable for use with child seats and safety harnesses.

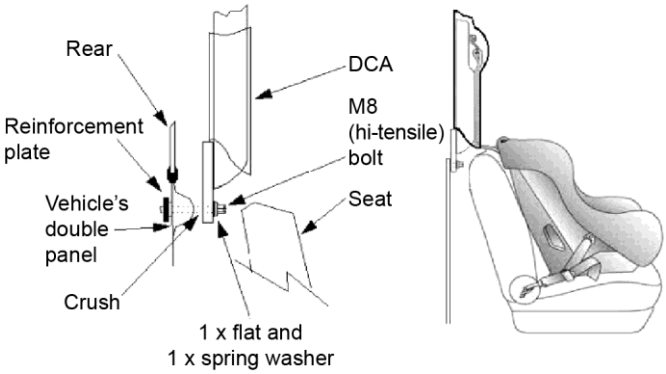

Figure 10: Dual Cab Anchorage (DCA)

Required:

- Fit the device to any of the rear seat positions, providing there is nothing obstructing any spreader plate positions (e.g., fuel tank, lines, chassis rails).
- Install the twin cab device in accordance with the manufacturer's instructions and utilise load spreader plates.
- Ensure the centreline of the device lies within 40 mm of the centreline of the child restraint when installed in the required seating position.

K6 Checklist — Child restraint anchorage installation (example)

K6 Checklist — Child restraint anchorage installation

This checklist is for use by approved vehicle examiners (AVEs) when assessing and certifying installation of child restraint anchorages.

Vehicle and modifier details

Vehicle make:	Vehicle model:	Month and year of manufacture:
VIN (if applicable):	**Vehicle chassis no. (if applicable):**	**Vehicle modifier (company name):**

Advanced braking systems

Braking systems	Check Yes, No, N/A as applicable:	Yes	No	N/A
1	Is the advanced braking system (where fitted) un-affected or re-certified after the vehicle modification?	☐	☐	☐

Modification details

Modification criteria	Check Yes or No as applicable:	Yes	No
1	Has the modification been performed in accordance with the manufacturer's guidelines?	☐	☐

Installation details

Installation	Check Yes, No, N/A as applicable:	Yes	No	N/A
1	Does this modification comply with the manufacturer's instructions and the relevant sections of Modification Code K6?	☐	☐	
2	Is the child restraint anchorage system compliant with Australian Design Rule (ADR) 34/.. ?	☐	☐	
3	Do the vehicle's seatbelts comply with ADR4, Australian Standards or equivalent?	☐	☐	
Child restraint anchorage (CRA) bar	**Check Yes, No, N/A as applicable:**	**Yes**	**No**	**N/A**
4	Is the centreline of the anchorage for the required seating position within 40 mm of the longitudinal centreline of the child restraint?	☐	☐	☐
5	Are the spreader plates and spacer plates utilised as required by this modification code?	☐	☐	☐
6	Are all attachment points for the child restraint through substantially flat, structurally sound, rust free sections of metal?	☐	☐	☐
7	If the vehicle does not comply with ADR 34 or ADR 34/.. , has a report been provided that confirms that the rear seat and its attachments can withstand forces generated during a crash?	☐	☐	☐
Child restraint anchorage (CRA) bar	**Check Yes, No, N/A as applicable:**	**Yes**	**No**	**N/A**
8	Is this CRA bar a suitable width for the vehicle?	☐	☐	☐
9	Is the CRA bar installed not less than 200 mm behind the seat?	☐	☐	☐
10	Is the CRA bar installed not more than 100 mm below the top rear edge of the seat back?	☐	☐	☐
11	If the CRA bar is installed into aluminium or composite body panels, has a copy of the engineering report approving this been attached to the modification certificate?	☐	☐	☐
Vertical post	**Check Yes, No, N/A as applicable:**	**Yes**	**No**	**N/A**
12	Is the centreline of the anchorage for the required seating position within 40 mm of the longitudinal centreline of the child restraint?	☐	☐	☐
13	Are the spreader plates and spacer plates utilised as required by this modification code?	☐	☐	☐
14	Is the height of the vertical post appropriate for the seat and not more than 100 mm below the top rear edge of the seat back?	☐	☐	☐
Universal frame	**Check Yes, No, N/A as applicable:**	**Yes**	**No**	**N/A**
15	Is the universal frame unmodified?	☐	☐	☐
16	Is the universal frame mounted facing forward?	☐	☐	☐
17	Is the universal frame installed in accordance with the manufacturer's instructions?	☐	☐	☐
Dual cab anchorage	**Check Yes, No, N/A as applicable:**	**Yes**	**No**	**N/A**
18	Are the fittings for the dual cab anchorage fitted so that there is nothing obstructing the spread plate positions (e.g. fuel tank, lines, chassis, etc.)?	☐	☐	☐
19	Is the universal frame installed in accordance with the manufacturer's instructions?	☐	☐	☐
20	Is the centreline of the anchorage for the required seating position within 40 mm of the longitudinal centreline of the child restraint?	☐	☐	☐

Vehicle chassis no./VIN:	Date:	Signed:

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K6 Checklist — Child restraint anchorage installation

This checklist is for use by approved vehicle examiners (AVEs) when assessing and certifying installation of child restraint anchorages.

Compliance

Modification	Check Yes, No as applicable:	Yes	No
1	Does this modification meet all the requirements of the manufacturer's guidelines / Modification Code K6?	☐	☐
2	Is the quality of the work to an accepted industry standard?	☐	☐
3	Does the vehicle continue to comply with ADRs and heavy vehicle standards regulations affected by the modification?	☐	☐

Authorisation

Other than modification criteria, if the answer to any relevant question is NO the modification is not acceptable.			
Comments:			
Examined by:	**Company (if applicable):**		**AVE no.:**
Signed:	**Modification certificate no.:**	**Modification plate no.:**	**Date:**

Vehicle chassis no./VIN:	Date:	Signed: