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? | [ ]  | [ ]  |  |

Certification details

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Brake system  | Check Yes, No, N/A as applicable: | Yes | No | N/A |
| 1 | Do the original equipment failure warning systems and secondary braking systems function correctly? | [ ]  | [ ]  | [ ]  |
| 2 | Does the service and parking brake performance of the modified vehicle meet the relevant heavy vehicle standards regulation or Australian Design Rule (ADR) requirements as applicable? | [ ]  | [ ]  | [ ]  |
| 3 | Are all non-standard air or hydraulic lines of appropriate sizing and material? | [ ]  | [ ]  | [ ]  |
| 4 | Do all components and devices in the brake system meet or exceed at least one appropriate and recognised international, national or association standard or the relevant parts thereof, where such standards exist? | [ ]  | [ ]  | [ ]  |
| 5 | Are all compressed air reservoirs provided with a means to permit the removal of water and other foreign matter? | [ ]  | [ ]  | [ ]  |
| 6 | Are all fittings of the correct type, size and compatible thread form? | [ ]  | [ ]  | [ ]  |
| 7 | Are all air and hydraulic lines installed so that they are protected from exposure to excessive heat, abrasion, movement, stress or impact? | [ ]  | [ ]  | [ ]  |
| 8 | Are all brake components securely mounted/fastened to the vehicle? | [ ]  | [ ]  | [ ]  |
| 9 | Is the brake system reservoir capacity at least:* for ADR vehicles — as specified in the ADR 35/..
* for pre-ADR vehicles —
* as specified in the ADR 35/.. ; or
* using an air brake system, 12 times the volume of the service brake chambers at maximum travel of pistons or diaphragms
* using a vacuum brake system charged by a vacuum pump, a volume sufficient to provide eight applications of the brake after the engine is stopped with four applications before the low vacuum warning light is activated
* using a vacuum brake system charged by engine manifold vacuum, a volume sufficient to provide four applications of the brake after the engine is stopped with two applications before the low vacuum warning light is activated.
 | [ ]  | [ ]  | [ ]  |
| 10 | Is the brake system recharge capability suitable to recharge the vehicle:* for ADR vehicles — as specified in the ADR 35/..
* for pre-ADR vehicles —
* as specified in the ADR 35/.. ; or
* using an air brake system, from 85% to 100% of the average operating pressure in less than $\frac{Actual stored energy capacity}{Required stored energy capacity}×25 seconds$ (as described in Section G — Overview)
* using vacuum brake system vacuum supply can build vacuum from fully used up to the level when the warning signal no longer operates within 30 seconds, and to the normal working level within 60 seconds.
 | [ ]  | [ ]  | [ ]  |
| 11 | For a pre-ADR vehicle, does the vehicle comply with the relevant brake system requirements (including performance requirements) of the relevant heavy vehicle standards regulation? | [ ]  | [ ]  | [ ]  |
| 12 | For an ADR vehicle, has the modified vehicle been shown to comply with the requirements of the relevant ADR? | [ ]  | [ ]  | [ ]  |
| 13 | For vehicles modified to include a load sensing proportioning valve, have instructions been given on how to set the valve operation correctly? | [ ]  | [ ]  | [ ]  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Brakes with same method of actuation additional axles  | Check Yes, No, N/A as applicable: | Yes | No | N/A |
| 1 | Are all additional wheels braked? | [ ]  | [ ]  | [ ]  |
| 2 | Have all applicable components of the brake system been upgraded to accommodate the additional brakes (i.e. master cylinder, booster, reservoir capacity and pipe diameters in the case of a hydraulic system; or compressor, air tank capacities, valves and pipe diameters in the case of an air system)? | [ ]  | [ ]  | [ ]  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Brake system with mixed method of actuation  | Check Yes, No, N/A as applicable: | Yes | No | N/A |
| 1 | From the plot of applied control force or delivery pressure versus brake output torque, is the variation in the brake output torques on the axles within +/-10%? | [ ]  | [ ]  | [ ]  |
| 2 | For air brakes, does the pressure within each brake chamber reach at least 65% of the average operating pressure within 600 milliseconds immediately following the rapid and complete application of the foot operated control? | [ ]  | [ ]  | [ ]  |
| 3 | Is the variation in response times for application and release of the brakes less than 200 milliseconds between axles? | [ ]  | [ ]  | [ ]  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Removal of axle  | Check Yes, No, N/A as applicable: | Yes | No | N/A |
| 1 | If a load sensing valve or other controlling device is normally fitted for the proposed axle/wheelbase configuration, is the valve or device correctly installed and adjusted on the modified vehicle? | [ ]  | [ ]  | [ ]  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Load sensing proportioning valves  | Check Yes, No, N/A as applicable: | Yes | No | N/A |
| 1 | If a load sensing valve is installed, has it been fitted in accordance with the manufacturer’s recommendations? | [ ]  | [ ]  | [ ]  |
| 2 | If a load sensing valve is installed, is there indelible markings advising in accordance with Modification Code G4 – Load sensing proportioning valves? | [ ]  | [ ]  | [ ]  |
| 3 | If a load sending valve is installed, does the vehicle’s braking system continue to meet the appropriate brake performance requirements of ADR 35A, ADR 35/.. or the relevant heavy vehicle standards regulation as applicable? | [ ]  | [ ]  | [ ]  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Wheelbase alteration  | Check Yes, No, N/A as applicable: | Yes | No | N/A |
| 1 | If the wheelbase is extended beyond the maximum offered by the manufacturer for the model, do the brake at the new pipe lengths meet the required application response times of ADR 35A, ADR 35/.. or the relevant heavy vehicle standards regulation as applicable? | [ ]  | [ ]  | [ ]  |
| 2 | If the wheelbase is reduced to less than the minimum offered by the manufacturer for the model, and the vehicle certified to ADR 35A or ADR 35/.. does it meet the requirements of the lightly loaded test for ADR 35/.. ? | [ ]  | [ ]  | [ ]  |

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 G4? | [ ]  | [ ]  |  |
| 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: |
|  |  |  |  |