Modification Code S10 Concessional Livestock Loading – Vehicle Rating

Stand-alone modification code for use in Queensland only.

Contents

Modification Code S10 — Concessional Livestock Loading - Vehicle Rating

1. Scope

The purpose of this code is to ensure vehicles used to transport livestock in Queensland comply with the intent of the scheme under which they operate. The code requires an appropriately qualified and accredited approved vehicle examiner (AVE) to evaluate both the capacity and distribution of the load owing to fuels, water and livestock when subjected to specified loading conditions.

This document is to be read in conjunction with the current version of the relevant Heavy Vehicle National Law (HVNL), Class 3 Loading Exemption Notice as published in the Queensland Gazette. Refer to the *Heavy Vehicle National Law - Queensland Class 3 Livestock Loading Exemption Notice* and associated *Operators Guide (the Scheme)*.

Modifications covered under this code:

Covered

- Rating of prime movers or converter dolly trailers intended to be used for the transportation oflivestock in Queensland, using the Scheme.
- Rating of rigid trucks, trailers or semitrailers fitted with single or multiple deck stock crates intended to be used for the transportation of livestock in Queensland, using the Scheme.

Not covered

- Rating of vehicles not used for the transportation of livestock.
- Rating of rigid trucks, trailers or semitrailers, not fitted with a single or multiple deck stock crate.

2. Related standards

Modified vehicles must comply with all relevant Australian Design Rules (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 vehicle continues to comply with all related ADRs.

ADR no.	Title
13/..	Installation of Lighting
24, 24A, 24/..	Tyre & Rim Selection
28/.., 83/..	External Noise of Motor Vehicles
30, 30/..	Smoke Emission Control for Diesel Vehicles
35, 35A, 35/..	Commercial Vehicle Brake Systems
38, 38/..	Trailer Braking Systems
36,36A, 36/.., 70/.., 80/..	Emission Control for Heavy Vehicles
42/..	General Safety Requirements
44/..	Specific Purpose Vehicle Requirements
62/..	Mechanical Connections between Vehicles
63/..	Trailers Designed for Use in Road Trains
64/..	Heavy Goods Vehicles Designed for Use in Road Trains & B-doubles
65/..	Maximum Road Speed Limiting for Heavy Goods Vehicles and Heavy Omnibuses

3. Certification procedure

The compliance procedure for this modification code is as follows:

1.	Owner /supplier	Determine if the vehicle's basic design, i.e. axle configuration, deck configurations, etc. meets the general requirements of the Scheme. • If **yes**, proceed to step 3. • If **no**, proceed to step 2.
2.	Owner /supplier	The vehicle is not eligible to operate under the Scheme.
3.	Owner /supplier	Contact an accredited S10 AVE and supply the vehicle specifications or organise the vehicle to be inspected by the AVE.
4.	S10 AVE	Perform a detailed inspection of the vehicle against all applicable requirements of this modification code. Complete the applicable S10 checklist and determine if compliance has been achieved. • If **yes**, proceed to step 5. • If **no**, do not proceed, advise owner/supplier of the non-compliance and if rework is required to ensure compliance. Return to step 3.
5.	S10 AVE	Issue modification certificate, affix S10 livestock loading 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 be discussed with the certifying AVE.

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.

4. Compliance requirements

When certifying a vehicle under this modification code, the load imposed on all components must remain within manufacturer's rated capacities. This includes the GVM/ATM and GCM ratings approved by the vehicle manufacturer. Where a vehicle's rating has been modified and certified in accordance with VSB6, apply the revised ratings.

Required:

- Check suspension, axle, drive train, chassis, brakes, steering, wheel (rim and tyre) capacities are not exceeded.
- Ensure all relevant checklists, along with the applicable declarations, have been completed and are retained for at least seven years after the certification of the vehicle.
- Retain records of analysis, work records, test results, evidence, sketches, vehicle data and calculation sheets for at least seven years after the certification of the vehicle.
- Ensure vehicles comply with additional conditions detailed in the Scheme.

Livestock loading S10 modification plate

Once certified, all vehicles must be affixed with an approved S10 modification plate.

Required:

- Ensure the modification plate includes the following details:
  - Date (at least month/year)
  - Accreditation (AVE/approved person) number
  - Certificate number
  - Vehicle identification number (VIN)
  - Vehicle S10 Laden Mass=
  - Front Axle Group/Kingpin S10 Laden Mass=
  - Rear Axle Group S10 Laden Mass=
  - Unladen Mass=.

= Refer to definitions in the Glossary.

Vehicle manufacturer's rating plate

For a vehicle to be eligible for certification under this modification code, a manufacturer's rating plate (or label) must be fitted by the original vehicle manufacturer. Alternatively, if the vehicle has been modified in accordance with VSB6, revised ratings as shown on the VSB6 Modification Plate may be used in addition to the vehicle manufacturer's ratings.

Required:

- For motor vehicles, the manufacturer's rating plate must include the following information:
  - Date (at least month/year)
  - Vehicle manufacturer's company name
  - Vehicle identification number (VIN)
  - Vehicle model
  - Gross vehicle mass (GVM) rating
  - Gross combination mass (GCM) rating
  - Maximum steer axle/axle group rating
  - Maximum rear axle group rating
  - Tyre size steer axle(s) (size and total load rating)
  - Tyre size rear axles (size and total load rating).

The fifth wheel/turntable rating must also be permanently marked on the fifth wheel/turntable and/or, the truck, in a prominent location.

- For trailers, the manufacturer's rating plate must include the following information:
  - Date (at least month/year)
  - Vehicle manufacturer's company name
  - Vehicle identification number (VIN)
  - Vehicle model
  - Aggregate trailer mass (ATM) rating
  - Gross trailer mass (GTM) rating.
- Trailers must be fitted with a supplemental plate that includes the following information:
  - Maximum front axle/axle group rating (if applicable)
  - Maximum rear axle group rating
  - Tyre size front axle(s) (size and total load rating) if applicable
  - Tyre size rear axles (size and total load rating).

If using a supplemental label, the information is to be embossed, indented, etched or engraved on a durable label which is welded, riveted or otherwise permanently attached in a readily visible position. Lettering must not be less than 2.5mm in height. The supplemental label may contain additional information.

5. Design requirements

Dimension requirements

Required:

- Ensure that stock crate heights and loaded deck lengths do not exceed the conditional dimension requirements listed in the Scheme.
- Ensure vehicles continue to comply with all other regulatory dimension limits.

Deck number limits

Required:

- Ensure the number of decks used to transport livestock does not exceed:
  - 2 for cattle
  - 3 for pigs
  - 4 for sheep.

Tow coupling requirements

Required:

- Ensure that D value ratings meet the minimum requirements detailed in the Scheme.
- Ensure any modifications performed to tow couplings are performed in accordance with Section P of VSB6.

Tyre and rims

Required:

- Ensure manufacturer's load carrying capacity of all tyres and rims is not exceeded.
- Where a vehicle is required by an ADR to be fitted with a 'tyre placard', ensure that tyre and rims continue to conform to the specifications detailed on the tyre placard.

- Where an S10 imposed loading exceeds 6.5t on a vehicle fitted with a single front steer axle or 11t for a twin steer, ensure the tyre section width:
  - is in accordance with the vehicle manufacturer's specification, or an approved axle configuration and
  - complies with the requirements of the Scheme.
- Ensure, where non-standard wheels are fitted, the modification is performed and certified in accordance with the applicable sections of VSB6:
  - Modification code E3 – Fitting of non-standard front wheel components
  - Modification code D3 – Fitting of non-standard rear wheel components.

S10 Conditional mass requirements

Vehicles certified under this code must provide documentation that demonstrates the weight distribution in both laden and unladen states.

Required:

Follow the steps detailed in the relevant S10 vehicle Checklist. As an overview, those steps include the following:

- Weigh unoccupied vehicle at a registered public weighbridge.
- Record the mass on the steer and rear axle group(s) giving consideration to:
  - equipment fitted to vehicle when used in normal operation (e.g. toolboxes, fridges etc.)
  - fluid reservoirs filled to capacity (less ullage where appropriate).
- Ensure the total mass and weight distribution is calculated and documented, in the both the Unladen mass state and in the laden state with the Imposed livestock load applied. As an interim step, it may be necessary to complete weight distribution calculations for Unladen dry mass and for Additional equipment not fitted at the time of weighing the vehicle.
- Ensure that, when combined, the unladen mass and imposed load (Vehicle S10 laden mass) does not exceed manufacturer's ratings.
- Ensure the Vehicle S10 laden mass does not exceed the conditional mass limits listed in the Scheme.

Unladen mass

Unladen mass is the mass of the vehicle in running order where the vehicle is unoccupied and has:

- all fluid reservoirs filled to capacity
- all standard equipment fitted
- additional equipment used in normal operation fitted.

Recommended:

- Weigh unoccupied vehicle in its operational state (i.e. with all equipment installed all fluid reservoirs filled to operating capacity).

➘ Where the vehicle is weighed with fluid reservoirs partially full, note the fluid levels on board at the time the vehicle was weighed. Deduct the mass of these fluids to calculate the Unladen dry mass of the vehicle. The Unladen (wet) mass is then calculated by adding the mass of fluids using the method detailed under ***Mass of fluids***.

Dry mass = weighbridge mass less the mass of fluids when weighed
Mass of fluids = volume of each tank multiplied by nominal fluid density value
Unladen (wet) mass = Dry mass + Mass of fluids

Mass of fluids

It may not be reasonable, or practical, for the vehicle to be weighed with all fluid reservoirs filled.

Required:

- Calculate the mass of fuel/AdBlue/water in each tank by multiplying the nominal volume of each tank by:
  - 0.84kg/l for diesel
  - 1.1kg/l for AdBlue
  - 1.0kg/l for water.
- For diesel and AdBlue tanks, apply an ullage factor of 5% (multiply the nominal volume of each tank by 0.95). Where the 'Actual' or 'Rated' volumes of the diesel and/or AdBlue tanks are available, an ullage factor is not to be applied.
- Effluent tanks (if fitted) are assumed to be empty when livestock are first loaded onto the vehicle, hence no fluid mass is added for effluent for any of the S10 mass calculations.

Imposed load

Calculating the mass of livestock load imposed on the vehicle using the following method:

Required:

- For prime movers and converter dolly trailers apply 15,000kg vertically through the centre of the fifth wheel coupling to simulate loading from a laden semitrailer.
- To calculate the simulated maximum load limit for rigid trucks and trailers:
  - calculate the Total Deck Space (TDS) available for the carriage of livestock in square metres
  - identify the livestock to be carried and apply the simulated livestock weight (SLW) listed in table 1.
  - where the vehicle is fitted with multiple decks, ensure calculations include the TDS of all decks.
- Measure the average length, and width of each livestock section. In cases where the compartment is a non-regular shape, it may be easier to divide the compartment into smaller sections of regular shape (rectangular or square).
- Calculate the additional mass on the front and rear axle group(s) due to the imposed (S10) loading using the below method, for each stock deck.

Single deck

$$Imposed\ load\ (kg) = SLW\ x\ TDS$$

Table 1: Simulated livestock weights

Livestock	Simulated Livestock Weight (SLW)
Cattle	420kg/m^2
Pig	280kg/m^2
Sheep	210kg/m^2

➘ Refer to the Queensland Class 3 Livestock Loading Exemption Notice and associated *Operators Guide* for more information on *conditional mass requirements,* including maximum axle mass limits.

Weight distribution calculations

Calculation of weight distribution for a vehicle requires determination of the Centre of Mass (CoM) for the various elements (i.e. fluid tanks/stock compartments) involved. These measurements are normally available from the vehicle and equipment manufacturer data sheets, or the body builder who completed work on the vehicle. Use an outline diagram, to approximate scale, to simplify the process and provide a useful aid to check body length and other critical dimensions.

Required:

- Complete the weight distribution calculations detailed in the relevant S10 vehicle Checklist.
- A copy of all weight distribution calculations must be attached to the Checklist document/s.

Recommended:

- A suitable weight distribution program/software is used to perform all weight distribution calculations.
- Alternatively, if a suitable weight distribution program/software is not available, the following formulas can be used to calculate the distribution of mass imposed on axle groups.

  A separate calculation using each of these formulas will be required for each reservoir, compartment, accessory, equipment, etc, on the vehicle.

Forward Axle Mass

$$FAM = \left(\frac{D}{WB}\right) x\ M$$

Rearward Axle Mass

$$RAM = \left(\frac{WB - D}{WB}\right) x\ M$$

↘ Note:

M = known, or calculated mass of the, reservoir, compartment, accessory, equipment, etc
WB = distance between front most axle and centre of rear axle group (wheelbase)
D = Distance from centre of mass of the, reservoir, compartment, accessory, equipment, etc to centre of rear axle group

S10 Checklist - Rigid Truck (example)

S10 Checklist—Concessional livestock loading – Vehicle rating (rigid truck)

Part A - Vehicle owner's or supplier's details

Name:	Company/business:	
Address:		**Post code:**

Vehicle and modifier details

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

Issued by (Approved Vehicle Examiner (AVE)):	Company (if applicable):	AVE no.:
Signed:	**Telephone:**	**Date:**

Vehicle design

Vehicle dimensions		
Overall vehicle length:	Wheelbase:	Rear overhang:
mm	mm	mm

Vehicle rating (information should be based on the truck manufacturer's specifications or VSB6 approval)	
Gross Vehicle Mass (GVM) rating:	Gross Combination Mass (GCM) rating:
kg	kg

Component specifications (the following information should be based on the truck manufacturer's specifications or VSB6 approval)					
Component	**Make:**	**Model:**	**Load rating (with S10 specified tyres):**		
Steering box and linkage(s)			kg		
Suspension – Steer axle(s)			kg		
Suspension – Rear axle group			kg		
Axles	**Make:**	**Model:**	**Load rating (with S10 specified tyres):**	**Number of axles:**	**Load sharing:**
Front axle group			kg		Y ☐ N ☐ N/A ☐
Rear axle group			kg		
Tyres	**Size designation:**	**Load index:**	**Capacity per tyre:**		**Total axle group tyre capacity:**
Front axle group			kg		kg
Rear axle group			kg		kg
Coupling	**Make:**	**Model:**			**D-value:**
Fifth wheel/turntable					kN

Assessment

Assessment	Check Yes, No as applicable: (If No, do not proceed with the rating)	Yes	No
1	Are all drive axles fitted with dual tyres?	☐	☐
2	Is the vehicle's steering configuration either single steer or twin-steer with load sharing suspension?	☐	☐
3	Is the vehicle designed with either:		
	• one single deck stock crate for single steer, single drive vehicle configurations; or	☐	☐
	• one or more deck stock crates for all other vehicle configurations?	☐	☐
4	Is the vehicle fitted with either:		
	• a single drive axle for vehicles with a single rear axle; or	☐	☐
	• at least tandem drive axles for vehicles with multiple rear axles?	☐	☐
5	Is the overall length of the vehicle, including fittings, less than or equal to 12.5m?	☐	☐
6	Is the overall width of the vehicle within the Australian Design Rule definition for maximum vehicle width?	☐	☐

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (rigid truck)

Assessment	Check Yes, No as applicable: (If No, do not proceed with the rating)	Yes	No
7	Is the overall height of the vehicle less than or equal to:		
	• 4.3m for single deck crate; or	☐	☐
	• 4.6m for multiple deck crates?	☐	☐
8	Is the rating of any fitted couplings greater than or equal to:		
	• For Type 2 road train hauling units 172kN	☐	☐
	• For other units 162kN?	☐	☐

Advanced braking systems

Braking systems	Check Yes, No, N/A as applicable: (If No, do not proceed with the rating)	Yes	No	N/A
1	Is the advanced braking system (where fitted) un-affected or re-certified after the vehicle modification?	☐	☐	☐

Compliance

Modification	Check Yes, No as applicable: (If No, do not proceed with the rating)	Yes	No
1	Is the quality of the work to an accepted industry standard?	☐	☐
2	Does the modified vehicle continue to comply with all affected ADRs?	☐	☐

Part B - Unladen mass

Weigh vehicle	
• Weigh vehicle at a registered public weighbridge and record quantities of fuel, AdBlue and water at the time of weighing.	
• Ensure vehicle is weighed without driver.	
• Attach a copy of the weighbridge ticket in the space provided at the end of Part B.	
Front axle group mass (F1):	Kg
Rear axle group mass (R1):	Kg
Weighbridge ticketed mass (F1 + R1):	Kg
Fuel:	L
AdBlue:	L
Water:	L

Standard equipment
• List all standard equipment fitted to the truck at the time of weighing (e.g. bullbar, sleeper, cab air conditioning, spare wheel/tyre(s), toolbox(s). The stock crate/body, gates, effluent tanks, etc. and OH&S equipment must be included.
• It is recommended that detailed photographs are taken of the vehicle at the time of weighing that capture all the standard equipment fitted.
• Attach all photos in the space provided at the end of Part B.
Standard equipment list at time of weighing:

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (rigid truck)

Additional equipment

Plan of additional equipment (including fluid tanks)
• Draw a plan of the chassis layout showing the position of all the additional equipment that has been, or is planned to be, fitted to the truck after the time of weighing. Items could include, but are not limited to: bullbar, fluid tanks, sleeper cab air conditioning, spare wheel/tyre(s), toolbox(s), refrigerator(s) etc. • Add to the plan drawing the position of all fuel, AdBlue and water tanks. • Attach all photos in the space provided at the end of Part B.
Chassis layout of additional equipment (including fluid tanks):

Calculated dry mass with standard and additional equipment	
• Subtract any mass imposed on the front and rear axle group(s) due to fuel, AdBlue and water. • Add the mass on the front and rear axle group(s) due to any additional equipment fitted after the time of weighing. • A copy of weight distribution calculations must be attached to the end of Part B.	
Front axle group dry mass (F2):	**kg**
Rear axle group dry mass (R2):	**kg**
Vehicle dry mass with standard equipment and additional equipment (F2+R2):	**kg**

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (rigid truck)

Unladen mass (wet mass)

Calculate the unladen or wet mass (with full fuel/AdBlue/water tanks added to dry mass of the steer and rear axle groups(s))	
• Calculate the mass of fuel/AdBlue/water in each tank (taking into account ullage factor) by multiplying the nominal volume of each tank by the density of its fluid. • A copy of weight distribution calculations must be attached to the end of Part B.	
Front axle group unladen (wet) mass (F3):	**kg**
Rear axle group unladen (wet) mass (R3):	**kg**
Vehicle's unladen (wet) mass with filled fluid reservoirs (less ullage), standard equipment and additional equipment (F3+R3):	**kg**

Additional Information

Photos of vehicle and standard equipment at time of weighing:
Weighbridge certificate:

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (rigid truck)

Dry mass weight distribution calculations. From mass imposed on the front and rear axle group(s) due to additional equipment (that has been, or is to be added after the time of weighing). Also subtract the weight of fuel, AdBlue and water at the time of weighing:
Unladed mass (wet mass) weight distribution calculations. From mass imposed on the front and rear axle group(s) due to full fuel, AdBlue and water tanks:

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (rigid truck)

Part C - Imposed livestock load (rigid truck)

Calculated additional front and rear axle group(s) mass due to the imposed livestock load	
Stock body/crate plan • Draw a plan of the stock body/crate deck areas on the vehicle that is available for the carriage of livestock including the vehicle axle locations. • One plan is required for each stock deck. • Calculate the additional mass on the front and rear axle group(s) due to the imposed livestock load, include all stock decks.	
Note: A copy of weight distribution calculations must be attached to this document.	
Total livestock area, all decks:	m^2
Additional mass on front axle group mass due to imposed livestock load, all decks (F4):	kg
Additional mass on rear axle group mass due to imposed livestock load, all decks (R4):	kg

Part D - S10 Gross combined mass (GCM) (rigid truck)

Calculated S10 GCM	
• Calculate the intended S10 GCM of the vehicle using the formula provided in the Appendix 1, Section (4), (c) of the Scheme.	
S10 gross combination mass rating required:	kg

Part E - Vehicle S10 laden mass (rigid truck)

S10 Laden mass	
• Calculate the total mass on the front and rear axle group(s) of the rigid truck by adding the unladen axle masses of the rigid truck (calculated above) and the imposed livestock load masses (calculated in Part C above). This will determine the vehicle laden mass.	
Front axle group S10 laden mass (F5) such that (F3+F4=F5):	kg
Rear axle group S10 laden mass (R5) such that (R3+R4=R5):	kg
Vehicle S10 laden mass (R5 + F5):	kg
S10 Conditional mass requirement	
• Record the conditional mass requirements that apply to the vehicle as detailed in the Scheme Notice.	
Maximum mass limit, front axle group:	kg
Maximum mass limit, laden mass:	kg

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (rigid truck)

Modification	Check Yes, No as applicable: (If No, do not proceed with the rating)	Yes	No
	Are the maximum calculated S10 laden masses less than or equal to the S10 Statutory livestock loading limits?	☐	☐

Rigid truck manufacturer's ratings	
• Record information from the vehicle manufacturer's rating plate, affixed to the cabin by the manufacturer. • Where the vehicle has been assessed/modified/re-rated and approved in accordance with VSB6, use the information from the modification plate.	
Maximum front axle group rating:	kg
Front axle group tyre size:	
Front axle group tyre capacity:	kg
Maximum rear axle group rating:	kg
Rear axle group tyre size:	
Rear axle group tyre capacity:	kg
Gross Vehicle Mass (GVM) rating:	kg
Gross Combination Mass (GCM) rating:	kg

Modification	Check Yes, No as applicable: (If No, to either do not proceed with the rating)	Yes	No
	Are the S10 laden masses (calculated above) less than or equal to the vehicle's manufacturer's ratings?	☐	☐

Livestock loading S10 plate	
• Duplicate the below information on the livestock loading S10 plate (maroon in colour). • Affix the plate to the cabin of the truck. • Ensure all other fields on the Livestock loading (S10) Plate ARE blanked out with three (3), or more, 'X' (For example: 'XXX')	
Date:	
Approved Vehicle Examiner/ Approved Person Accreditation Number:	
Certificate Number:	
Vehicle Identification Number (VIN) / Chassis Number:	
Vehicle laden S10 mass (from Part E):	kg
S10 Gross combination mass (from Part D):	kg
Front axle group S10 laden mass (from Part E):	kg
Rear axle group S10 laden mass (from Part E):	kg
S10 front tyre size/load rating (from Part A):	/ kg
S10 rear tyre size/load rating (from Part A):	/ kg

Part F - Vehicle details and declarations

AVE authorisation

Declaration by certifier (AVE)		
I am the Approved Person who completed all the mass calculations and declare that the information in this form is true and correct.		
Issued by:	Company (if applicable):	AVE no.:
Signed:	Telephone:	Date:

Owner/vehicle supplier authorisation

As the ☐ owner / ☐ supplier (select applicable) of the vehicle described in this form, I declare that the vehicle specifications and vehicle equipment detailed herein are representative of the vehicle as it will enter into service and that I have enlisted the services of the AVE mentioned above to complete the S10 approval of this vehicle in this build state/configuration.

Name:	Company (if applicable):	
Address		
Signed:	Telephone:	Date:

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist – Prime Mover (example)

S10 Checklist—Concessional livestock loading – Vehicle rating (prime mover)

Part A - Vehicle owner's or supplier's details

Name:	Company/business:	
Address:		Post code:

Vehicle and modifier details

Vehicle make:	Vehicle model:	Month and year of manufacture:
VIN (if applicable):	Vehicle chassis no. (if applicable):	Engine no:

Issued by (Approved Vehicle Examiner (AVE)):	Company (if applicable):	AVE no.:
Signed:	Telephone:	Date:

Vehicle design

Vehicle dimensions		
Overall vehicle length:	Wheelbase:	Rear overhang:
mm	mm	mm

Vehicle rating (information should be based on the truck manufacturer's specifications or VSB6 approval)	
Gross Vehicle Mass (GVM) rating:	Gross Combination Mass (GCM) rating:
kg	kg

Component specifications (the following information should be based on the truck manufacturer's specifications or VSB6 approval)					
Component	Make:	Model:	Load rating (with S10 specified tyres):		
Steering box and linkage(s)			kg		
Suspension – Steer axle(s)			kg		
Suspension – Rear axle group			kg		
Axles	Make:	Model:	Load rating (with S10 specified tyres):	Number of axles:	Load sharing:
Front axle group			kg		Y ☐ N ☐ N/A ☐
Rear axle group			kg		
Tyres	Size designation:	Load index:	Capacity per tyre:	Total axle group tyre capacity:	
Front axle group			kg	kg	
Rear axle group			kg	kg	
Coupling	Make:	Model:		D-value:	
Fifth wheel/turntable				kN	

Assessment

Assessment	Check Yes, No as applicable: (If No, do not proceed with the rating)	Yes	No
1	Is the vehicle fitted with tandem or tri-axle drive group?	☐	☐
2	Are drive axles fitted with dual tyres?	☐	☐
3	Is the vehicle's steering configuration either single steer or twin-steer with load sharing suspension?	☐	☐
4	Is the overall length of the vehicle, including fittings, less than or equal to 12.5m?	☐	☐
5	Is the overall width of the vehicle within the Australian Design Rule definition for maximum vehicle width?	☐	☐
6	Is the overall height less than or equal to 4.3m?	☐	☐
7	Is the rating of any fitted fifth wheel or ball race turntable greater than or equal to:		
	• For Type 2 road train hauling units 160kN?	☐	☐
	• For Type 1 road train hauling units 140kN	☐	☐
	• For other units 123kN?	☐	☐

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (prime mover)

Advanced braking systems

Braking systems — Check Yes, No, N/A as applicable: (If No, do not proceed with the rating)	Yes	No	N/A
1 Is the advanced braking system (where fitted) un-affected or re-certified after the vehicle modification?	☐	☐	☐

Compliance

Modification — Check Yes, No as applicable: (If No, do not proceed with the rating)	Yes	No
1 Is the quality of the work to an accepted industry standard?	☐	☐
2 Does the modified vehicle continue to comply with all affected ADRs?	☐	☐

Part B - Unladen mass

Weigh vehicle

- Weigh vehicle at a registered public weighbridge and record quantities of fuel, AdBlue and water at the time of weighing.
- Ensure vehicle is weighed without driver.
- Attach a copy of the weighbridge ticket in the space provided at the end of Part B.

Front axle group mass (F1):	**Kg**
Rear axle group mass (R1):	**Kg**
Weighbridge ticketed mass (F1 + R1):	**Kg**
Fuel:	**L**
AdBlue:	**L**
Water:	**L**

Standard equipment

- List all standard equipment fitted to the truck at the time of weighing (e.g. bullbar, sleeper, cab air conditioning, spare wheel/tyre(s), toolbox(s).
- It is recommended that detailed photographs are taken of the vehicle at the time of weighing that capture all the standard equipment fitted.
- Attach all photos in the space provided at the end of Part B.

Standard equipment list at time of weighing:

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (prime mover)

Additional equipment

Plan of additional equipment (including fluid tanks)

- Draw a plan of the chassis layout showing the position of all the additional equipment that has been, or is planned to be, fitted to the truck after the time of weighing. Items could include, but are not limited to: bullbar, fluid tanks, sleeper cab air conditioning, spare wheel/tyre(s), toolbox(s), refrigerator(s) etc.
- Add to the plan drawing the position of all fuel, Adblue and water tanks.
- Attach all photos in the space provided at the end of Part B.

Chassis layout of additional equipment (including fluid tanks):

Calculated dry mass with standard and additional equipment

- Subtract any mass imposed on the front and rear axle group(s) due to fuel, AdBlue and water.
- Add the mass on the front and rear axle group(s) due to any additional equipment fitted after the time of weighing.
- A copy of weight distribution calculations must be attached to the end of Part B.

Front axle group dry mass (F2):	**kg**
Rear axle group dry mass (R2):	**kg**
Vehicle dry mass with standard equipment and additional equipment (F2+R2):	**kg**

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (prime mover)

Unladen mass (wet mass)

Calculate the unladen or wet mass (with full fuel/AdBlue/water tanks added to dry mass of the steer and rear axle groups(s))	
• Calculate the mass of fuel/AdBlue/water in each tank (taking into account ullage factor) by multiplying the nominal volume of each tank by the density of its fluid. • A copy of weight distribution calculations must be attached to the end of Part B.	
Front axle group unladen (wet) mass (F3):	**kg**
Rear axle group unladen (wet) mass (R3):	**kg**
Vehicle's unladen (wet) mass with filled fluid reservoirs (less ullage), standard equipment and additional equipment (F3+R3):	**kg**

Additional Information

Photos of vehicle and standard equipment at time of weighing:
Weighbridge certificate:

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (prime mover)

Dry mass weight distribution calculations. From mass imposed on the front and rear axle group(s) due to additional equipment (that has been, or is to be added after the time of weighing). Also subtract the weight of fuel, AdBlue and water at the time of weighing:
Unladed mass (wet mass) weight distribution calculations. From mass imposed on the front and rear axle group(s) due to full fuel, AdBlue and water tanks:

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (prime mover)

Part C - Imposed load (prime mover)

Calculated additional front and rear axle group(s) mass due to the imposed load through the prime mover's fifth wheel	
• An imposed load of 15,000kg is to be applied through the centreline of the fifth wheel/turntable, to simulate the mass of a loaded trailer coupled to the prime mover (Check: the total vehicle imposed S10 mass (F4 + R4) should equal 15,000kg). • Calculate the additional mass on the front and rear axle group(s) due to the imposed load through the fifth wheel/turntable of the prime mover. **Note: A copy of weight distribution calculations must be attached to this document.**	
Additional mass on front axle group mass due to imposed load (F4):	kg
Additional mass on rear axle group mass due to imposed load (R4):	kg

Part D - S10 Gross combined mass (GCM) (prime mover)

Calculated S10 GCM	
• Calculate the intended S10 GCM of the vehicle using the formula provided in the Appendix 1, Section (4), (b) of the Scheme.	
S10 gross combination mass rating required:	kg

Part E - Vehicle S10 laden mass (prime mover)

S10 Laden mass			
• Calculate the total mass on the front and rear axle group(s) of the prime mover by adding the unladen axle masses of the prime mover (calculated above) and the imposed load masses (calculated in Part C above). This will determine the vehicle laden mass.			
Front axle group S10 laden mass (F5) such that (F3+F4=F5):			kg
Rear axle group S10 laden mass (R5) such that (R3+R4=R5):			kg
Vehicle S10 laden mass (R5 + F5):			kg
S10 Conditional mass requirement			
• Record the conditional mass requirements that apply to the vehicle as detailed in the Scheme Notice.			
Maximum mass limit, front axle group:			kg
Maximum mass limit, laden mass:			kg
Modification	**Check Yes, No as applicable: (If No, do not proceed with the rating)**	Yes	No
	Are the maximum calculated S10 laden masses less than or equal to the S10 Statutory livestock loading limits?	☐	☐
Prime mover manufacturer's ratings			
• Record information from the vehicle manufacturer's rating plate, affixed to the cabin by the manufacturer. • Where the vehicle has been assessed/modified/re-rated and approved in accordance with VSB6, use the information from the modification plate.			
Maximum front axle group rating:			kg
Front axle group tyre size:			
Front axle group tyre capacity:			kg
Maximum rear axle group rating:			kg
Rear axle group tyre size:			
Rear axle group tyre capacity:			kg
Gross Vehicle Mass (GVM) rating:			kg
Gross Combination Mass (GCM) rating:			kg
Modification	**Check Yes, No as applicable: (If No, to either do not proceed with the rating)**	Yes	No
	Are the S10 laden masses (calculated above) less than or equal to the vehicle's manufacturer's ratings?	☐	☐
Livestock loading S10 plate			
• Duplicate the below information on the livestock loading S10 plate (maroon in colour). • Affix the plate to the cabin of the truck. • Ensure all other fields on the Livestock loading (S10) Plate ARE blanked out with three (3), or more, 'X' (For example: 'XXX')			
Date:			
Approved Vehicle Examiner/ Approved Person Accreditation Number:			
Certificate Number:			
Vehicle Identification Number (VIN) / Chassis Number:			
Vehicle laden S10 mass (from Part E):			kg
S10 Gross combination mass (from Part D):			kg

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (prime mover)

Front axle group S10 laden mass (from Part E):		kg
Rear axle group S10 laden mass (from Part E):		kg
S10 front tyre size/load rating (from Part A):	/	kg
S10 rear tyre size/load rating (from Part A):	/	kg

Part F - Vehicle details and declarations

AVE authorisation

Declaration by certifier (AVE)		
I am the Approved Person who completed all the mass calculations and declare that the information in this form is true and correct.		
Issued by:	**Company (if applicable):**	**AVE no.:**
Signed:	**Telephone:**	**Date:**

Owner/vehicle supplier authorisation

As the ☐ owner / ☐ supplier (select applicable) of the vehicle described in this form, I declare that the vehicle specifications and vehicle equipment detailed herein are representative of the vehicle as it will enter into service and that I have enlisted the services of the AVE mentioned above to complete the S10 approval of this vehicle in this build state/configuration.		
Name:	**Company (if applicable):**	
Address		
Signed:	**Telephone:**	**Date:**

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist – Converter Dolly (example)

S10 Checklist—Concessional livestock loading – Vehicle rating (Dolly)

Part A - Vehicle owner's or supplier's details

Name:	Company/business:	
Address:		**Post code:**

Vehicle and modifier details

Vehicle make:	Vehicle model:	Month and year of manufacture:
VIN (if applicable):	**Vehicle chassis no. (if applicable):**	
Issued by (Approved Vehicle Examiner (AVE)):	**Company (if applicable):**	**AVE no.:**
Signed:	**Telephone:**	**Date:**

Vehicle design

Vehicle dimensions				
Overall vehicle length:		**Front overhang:**		
mm		mm		
Drawbar length:		**Loaded tray length:**		
mm		mm		
Vehicle rating				
Aggregate Trailer Mass (ATM) rating:		**Gross Trailer Mass(GTM) rating:**		
kg		kg		
Component specifications (the following information should be based on the truck manufacturer's specifications)				
Axles:	**Make:**	**Model:**	**Load rating (with S10 specified tyres):**	**Number of axles:**
Axle group			kg	
Tyres:	**Size designation:**	**Load index:**	**Capacity per tyre:**	**Total axle group tyre capacity:**
Axle group			kg	kg
Coupling:	**Make:**	**Model:**		**D-value:**
Fifth wheel				kN
Towing eye				kN

Assessment

Assessment — Check Yes, No, N/A as applicable:	Yes	No	N/A
1 Is the distance from the centre of the drawbar coupling to the front axle line less than or equal to 5.0m?	☐	☐	☐
2 Is the overall width of the vehicle within the Australian Design Rule definition for maximum vehicle width (for example 2.5m)?	☐	☐	☐
3 Is the trailer fitted with a tandem axle group?	☐	☐	☐
4 Are all axles fitted with dual tyres?	☐	☐	☐
5 Is the applicable tow coupling rating equal to or greater than:			
• fifth wheel rating 190 kN?	☐	☐	☐
• turntable rating 190 kN?	☐	☐	☐
• tow eye rating 210kN?	☐	☐	☐

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?	☐	☐	☐

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (Dolly)

Part B - Trailer mass

Unladen dry mass

Unladen dry trailer mass	
• Unladen mass is taken directly from the weighbridge certificate.	
Unladen dry mass of trailer (identical to unladen mass for a dolly as no fluid tanks can be fitted):	kg

Additional Information

Weighbridge certificate:

Manufacturer's Specifications
Attach a copy of the manufacturer's specifications. This information is to include, but not be limited to, the following: • Make • Model • Year of manufacture • Front and Rear axle manufacturers • Front and Rear axle specification.
Copy of the manufacturer's specifications:

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (Dolly)

Part C - Vehicle S10 laden mass (Dolly)

Vehicle S10 mass (Dolly)					
• Calculate the vehicle S10 laden mass by adding the unladen dry trailer mass and the 15,000kg simulated mass.					
Vehicle S10 laden mass:					kg
Manufacturer's mass ratings					
• Insert the following values:					
Axle group rating:					kg
Aggregate trailer mass (ATM) rating:					kg
Axle group tyre rating:	Size designation:	Load index:	Speed index:	Capacity per tyre:	Total axle group tyre capacity:

Modification	Check Yes, No as applicable: (If No, do not proceed with the rating)	Yes	No
1	Is the vehicle S10 laden mass less than or equal to the values recorded above in the manufacturer's mass ratings?	☐	☐

Part E - Vehicle details and declarations

AVE authorisation

Declaration by certifier (AVE)		
I am the Approved Person who completed all the mass calculations and declare that the information in this form is true and correct.		
Issued by:	Company (if applicable):	AVE no.:
Signed:	Telephone:	Date:

Owner/supplier authorisation

As the ☐ Owner / ☐ Supplier (select applicable) of the vehicle described in this form, I declare that the vehicle specifications and vehicle equipment detailed herein are representative of the vehicle as it will enter into service and that I have enlisted the services of the AVE mentioned above to complete the S10 approval of this vehicle in this build state/configuration.

Name:	Company (if applicable):	
Address		
Signed:	Telephone:	Date:

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist – Dog Trailer (example)

S10 Checklist—Concessional livestock loading – Vehicle rating (Dog trailers)

Part A - Vehicle owner's or supplier's details

Name:	Company/business:	
Address:		Postcode:

Vehicle and modifier details

Vehicle make:	Vehicle model:	Month and year of manufacture:
VIN (if applicable):	Vehicle chassis no. (if applicable):	
Issued by (Approved Vehicle Examiner (AVE)):	Company (if applicable):	AVE no.:
Signed:	Telephone:	Date:

Vehicle design

Vehicle dimensions		
Overall vehicle length: mm	Wheelbase: mm	Loaded deck length: mm
Front overhang: mm	Rear overhang: mm	
Drawbar length: mm		
Vehicle rating		
Aggregate Trailer Mass (ATM) rating: kg	Gross Trailer Mass (GTM) rating: kg	

Component specifications (the following information should be based on the vehicle manufacturer's specifications)				
Axles	Make:	Model:	Load rating (with S10 specified tyres):	Number of axles:
Front axle group			kg	
Rear axle group			kg	

Tyres	Size designation:	Load index:	Capacity per tyre:	Total axle group tyre capacity
Front Axle Group			kg	kg
Rear axle group			kg	kg

Coupling	Make:	Model:	D-value:
Tow coupling			kN
Turntable			kN

Assessment

Assessment	Check Yes, No, N/A as applicable:	Yes	No	N/A
1	Is the overall deck length of the vehicle less than or equal to 12.5m?	☐	☐	☐
2	Is the distance from the centre of the drawbar coupling to the front axle line less than or equal to 5.0m?	☐	☐	☐
3	Is the overall width of the vehicle within the Australian Design Rule definition for maximum vehicle width (for example, 2.5m)?	☐	☐	☐
4	Is the overall height less than or equal to:			
	• 4.3m single deck crate?	☐	☐	☐
	• 4.6m multiple deck crate?	☐	☐	☐
5	Is the trailer fitted with a triaxle rear axle group?	☐	☐	☐
6	Is the trailer fitted with a tandem axle front axle group?	☐	☐	☐

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (Dog trailers)

Assessment	Check Yes, No, N/A as applicable:	Yes	No	N/A
7	Are all axles fitted with dual tyres?	☐	☐	☐
8	Is the king pin rating equal to or greater than the following:			
	• dog trailers with a rear coupling 162kN?	☐	☐	☐
	• dog trailers without a rear coupling 135kN?	☐	☐	☐
9	Is the fifth wheel rating equal to or greater than the following:			
	• dog trailers with a rear coupling 162k?	☐	☐	☐
	• dog trailers without a rear coupling 135kN?	☐	☐	☐
10	Is the tow eye rating equal to or greater than the following:			
	• dog trailers with a rear coupling 162kN?	☐	☐	☐
	• dog trailers without a rear coupling 135kN?	☐	☐	☐
11	Is the rear tow coupling rating equal to or greater than 162kN?	☐	☐	☐

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?	☐	☐	☐

Part B - Unladen mass

Weigh vehicle

- Weigh vehicle at a registered public weighbridge and record quantities of fuel, AdBlue and water at the time of weighing.
- Ensure vehicle is weighed without driver.
- Attach a copy of the weighbridge ticket in the space provided at the end of Part B.

Weighbridge ticketed mass:	Kg
Fuel:	L
AdBlue:	L
Water:	L

Standard equipment

- List all standard equipment fitted to the vehicle at the time of weighing (e.g. spare wheel/tyre(s), toolbox(s)). The stock crate/body, gates, effluent tanks, etc. and OH&S equipment must be included.
- It is recommended that detailed photographs of the vehicle (that capture all the standard equipment fitted) are taken at the time of weighing.
- Attach all photos in the space provided at the end of Part B.

Standard equipment list:

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (Dog trailers)

Additional equipment

Plan of additional equipment

- Draw a plan of the chassis layout showing the position of all the additional equipment that has been, or is planned to be, fitted after the time of weighing.
- It is recommended that detailed photographs of the vehicle (that capture all the standard equipment fitted) are taken at the time of weighing.
- Attach all photos in the space provided at the end of Part B.

Chassis layout of additional equipment:

Calculated dry mass with standard and additional equipment

- Subtract any mass imposed on the steer and rear axle group(s) due to fuel, AdBlue and water.
- Calculate the mass on the steer and rear axle group(s) due to any additional equipment fitted after the time of weighing.
- A copy of weight distribution calculations must be attached to the end of Part B.

Front axle group unladen dry mass (F2):	kg
Rear axle group unladen dry mass (R2):	kg
Trailer's unladen dry mass with standard equipment and additional equipment (F2+R2):	kg

Trailer unladen mass

Calculate the unladen or wet mass (with fuel/AdBlue/water added to dry mass of the steer and rear axle groups(s))

- Calculate the mass of fuel/AdBlue/water in each tank (taking into account the ullage factor) by multiplying the nominal volume of each tank by the density of fluid.
- A copy of weight distribution calculations must be attached to the end of Part B.

Front axle group unladen mass (F3):	kg
Rear axle group unladen mass (R3):	kg
Trailer's unladen mass with filled fluid reservoirs (less ullage), standard equipment and additional equipment (F3+R3):	kg

Additional information

Photos of standard equipment:

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (Dog trailers)

Weighbridge certificate:
Weight distribution calculations from mass imposed on the forward and rear axle group(s) due to fuel, AdBlue and water:
Photographs of the vehicle at the time of weighing capturing all the standard equipment fitted:
Weight distribution calculations of the mass on the forward and rear axle group(s) due to any additional equipment fitted after the time of weighing:

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (Dog trailers)

Part C – S10 Laden Mass (Dog trailer)

Stock body/crate plan
• Draw a plan of the stock body/crate deck areas on the vehicle that are available for the carriage of livestock including the vehicle axle locations. • In the plan, mark in the position of the rear axle line and the distance between the centre of each livestock carrying area and the rear axle. • One plan is required for each stock deck.

Calculate imposed (S10) loads on forward and rear axle groups	
• A copy of weight distribution calculations must be attached to the end of Part C. • Where a converter dolly is part of the dog trailer, apply 15,000kg vertically through the centre of the fifth wheel coupling to simulate loading from a laden semitrailer.	
Total Livestock area (all decks):	m^2
Front axle group S10 laden mass (F5):	kg
Rear axle group S10 laden mass (R5):	kg
Vehicle S10 laden mass (F5+R5):	kg

Modification	Check Yes, No as applicable: (If No, do not proceed with the rating)	Yes	No
1	Are the calculated S10 laden masses less than or equal to the vehicle manufacturer's ratings?	☐	☐

Vehicle chassis no./VIN:	Date:	Signed:

Additional Information

Weight distribution calculations:

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (Dog trailers)

Part D - Vehicle details and declarations

AVE authorisation

Declaration by certifier (AVE)		
I am the Approved Person who completed all the mass calculations and declare that the information in this form is true and correct.		
Issued by:	**Company (if applicable):**	**AVE no.:**
Signed:	**Telephone:**	**Date:**

Owner/supplier authorisation

As the ☐ Owner / ☐ Supplier (select applicable) of the vehicle described in this form, I declare that the vehicle specifications and vehicle equipment detailed herein are representative of the vehicle as it will enter into service and that I have enlisted the services of the AVE mentioned above to complete the S10 approval of this vehicle in this build state/configuration.		
Name:	**Company (if applicable):**	
Address		
Signed:	**Telephone:**	**Date:**

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist – Semitrailer including B-double and B-triple (example)

S10 Checklist—Concessional livestock loading – Vehicle rating (Semitrailer including B-double and B-triple trailer)

Part A - Vehicle owner's or supplier's details

Name:	Company/business:	
Address:		**Postcode:**

Vehicle and modifier details

Vehicle make:	Vehicle model:	Month and year of manufacture:
VIN (if applicable):	**Vehicle chassis no. (if applicable):**	
Issued by (Approved Vehicle Examiner (AVE)):	**Company (if applicable):**	**AVE no.:**
Signed:	**Telephone:**	**Date:**

Vehicle design

Vehicle dimensions				
Overall vehicle length:		**Distance from Kingpin to ROH Line:**		
mm		mm		
Stock crate length:	**King pin to front corner of trailer:**		**Rear overhang:**	
mm	mm		mm	
Vehicle rating				
Aggregate Trailer Mass (ATM) rating:		**Gross Trailer Mass (GTM) rating:**		
kg		kg		
Component specifications (the following information should be based on the trailer manufacturer's specifications)				
Axles:	**Make:**	**Model:**		**Load rating (with S10 specified tyres):**
Rear axle group				kg
Tyres	**Size designation**	**Load index**	**Capacity per tyre**	**Total axle group tyre capacity**
Rear axle group			kg	kg
Coupling	**Make**	**Model**		**D-value**
King pin				kN
Rear tow coupling (if fitted)				kN
Fifth wheel (for B-Double & B-Triple lead trailers only)				kN

Assessment

Assessment	Check Yes, No, N/A as applicable:	Yes	No	N/A
1	Is the total internal deck length no more than 12.5m?	☐	☐	
2	Is the overall width of the vehicle within the Australian Design Rule definition for maximum vehicle width (for example, 2.5m)?	☐	☐	☐
3	Is the overall height of the vehicle less than or equal to:			
	• 4.3m for single deck crate; or	☐	☐	☐
	• 4.6m for multiple deck crates?	☐	☐	☐
4	Is the vehicle fitted with a triaxle group?	☐	☐	☐
5	Are all axles fitted with dual tyres?	☐	☐	☐
6	Are the load ratings, for fitted couplings, equal to or greater than the following?			

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (Semitrailer including B-double and B-triple trailer)

Assessment	Check Yes, No, N/A as applicable:	Yes	No	N/A
•	Rear pin tow coupling 210kN	☐	☐	☐
•	B-double lead trailer fifth wheel coupling 135kN	☐	☐	☐
•	B-triple lead trailer fifth wheel coupling 162kN	☐	☐	☐
•	B-triple second trailer fifth wheel coupling 135kN?	☐	☐	☐

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?	☐	☐	☐

Part B - Unladen mass

Weigh vehicle	
• Weigh vehicle at a registered public weighbridge and record quantities of fuel, AdBlue and water at the time of weighing.	
• Ensure vehicle is weighed without driver.	
• Attach a copy of the weighbridge ticket in the space provided at the end of Part B.	
Weighbridge ticketed mass:	Kg
Fuel:	L
AdBlue:	L
Water:	L
Standard equipment	
• List all standard equipment fitted to the trailer at the time of weighing (e.g. spare wheel/tyre(s), toolbox(s)etc. The stock crate/body, gates, effluent tanks, etc and OH&S equipment must be included.	
• It is recommended that detailed photographs are taken of the vehicle at the time of weighing that capture all the standard equipment fitted.	
• Attach all photos in the space provided at the end of Part B.	
Standard equipment list	

Additional equipment

Plan of additional equipment

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (Semitrailer including B-double and B-triple trailer)

- Draw a plan of the chassis layout showing the position of all the additional equipment that has been, or is planned to be, fitted to the trailer after the time of weighing.
- It is recommended that detailed photographs are taken of the vehicle at the time of weighing that capture all the standard equipment fitted.
- Attach all photos in the space provided at the end of Part B.

Chassis layout of additional equipment

Calculated dry mass with standard and additional equipment

- Subtract any mass imposed on the kingpin and rear axle group(s) due to fuel, AdBlue and water.
- Calculate the mass on the kingpin and rear axle group(s) due to any additional equipment fitted after the time of weighing.
- A copy of weight distribution calculations must be attached to the end of Part B.

Kingpin unladen dry mass (F2)	kg
Rear axle group unladen dry mass (R2)	kg
Trailer's unladen dry mass with standard equipment and additional equipment (F2+R2)	kg

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (Semitrailer including B-double and B-triple trailer)

Trailer unladen mass

Calculate the unladen or wet mass (with fuel/AdBlue/water added to dry mass of the steer and rear axle groups(s))

- Calculate the mass of fuel/AdBlue/water in each tank (taking into account ullage factor) by multiplying the nominal volume of each tank by the density of fluid.
- A copy of weight distribution calculations must be attached to the end of Part B.

Kingpin unladen mass (KP3)	kg
Rear axle unladen mass (R3)	kg
Trailer's unladen mass with filled fluid reservoirs (less ullage), standard equipment and additional equipment (KP3+R3)	kg

Additional Information

Photos of standard equipment

Weighbridge certificate

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (Semitrailer including B-double and B-triple trailer)

Weight distribution calculations from mass imposed on the steer and rear axle group(s) due to fuel, AdBlue and water
Photographs of the vehicle at the time of weighing capturing all the standard equipment fitted
Weight distribution calculations of the mass on the steer and rear axle group(s) due to any additional equipment fitted after the time of weighing

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (Semitrailer including B-double and B-triple trailer)

Part C – S10 laden mass (Semitrailer)

Deck area(s) on trailer
• Draw a plan of the stock body/crate deck areas on the vehicle that is available for the carriage of livestock including the vehicle axle locations. • Mark in the position of the rear axle line and the distance between the centre of each livestock carrying area and the rear axle. • One plan is required for each stock deck.
Drawing of deck(s)

Calculate S10 laden mass	
• A copy of weight distribution calculations must be attached to the end of Part C • Apply 15,000kg vertically through the centre of the fifth wheel coupling to simulate loading from a laden semitrailer (if trailer is fitted with a fifth wheel coupling i.e. lead b-double & b-triple trailer and b-triple middle trailer)	
Total Livestock area (all Decks)	m^2
Kingpin S10 laden mass (F5)	kg
Rear axle group S10 laden mass (R5)	kg
Vehicle S10 laden mass (F5+R5)	kg

Vehicle chassis no./VIN:	Date:	Signed:

S10 Checklist—Concessional livestock loading – Vehicle rating (Semitrailer including B-double and B-triple trailer)

Modification — Check Yes, no as applicable: (If No, do not proceed with the rating)	Yes	No
1 Is the applicable vehicle S10 mass less than or equal to the values recorded above in the manufacturer's mass ratings?	☐	☐
2 Is the maximum kingpin load less than or equal to 15,000kg?	☐	☐

Additional Information

Weight distribution calculations

Part D - Vehicle details and declarations

AVE Authorisation

Declaration by certifier (AVE)		
I am the Approved Person who completed all the mass calculations and declare that the information in this form is true and correct.		
Issued by:	**Company (if applicable):**	**AVE no.:**
Signed:	**Telephone:**	**Date:**

Owner/supplier Authorisation

As the ☐ Owner / ☐ Supplier (select applicable) of the vehicle described in this form, I declare that the vehicle specifications and vehicle equipment detailed herein are representative of the vehicle as it will enter into service and that I have enlisted the services of the AVE mentioned above to complete the S10 approval of this vehicle in this build state/configuration.		
Name:	**Company (if applicable):**	
Address		
Signed:	**Telephone:**	**Date:**

Vehicle chassis no./VIN:	Date:	Signed:

Appendix 1 — Glossary

General terms

Additional equipment	Any equipment that has been, or is planned to be, fitted to the truck after the time of weighing. Items could include, but are not limited to, bullbar, sleeper cab air conditioning, spare wheel/tyre(s)toolbox(s), refrigerator(s), etc.
Fluid tank	A tank used to store a fluid. This may include (but not be exclusively restricted to) auxiliary fuel, AdBlue tanks, water and/or effluent tanks that are fitted to the truck and/or trailer.
Front axle group/Kin pin S10 Laden Mass	The total simulated mass as calculated according to the Livestock Loading (S10) code on: • the front steer axle group of a truck, or • the front axle group of a dog trailer, or • the axle group of a dolly, or • the kingpin of a semitrailer.
Length	Length is to be calculated to the nearest 5 mm.
Mass	Mass is to be calculated to the nearest kilogram.
Rear axle group S10 laden mass	The total simulated mass as calculated according to the Livestock Loading (S10) code on: • the rear axle group of a truck, or • the rear axle group of a dog trailer, or • the axle group of a semitrailer.
Standard equipment	Includes bullbar, sleeper cab air conditioning, spare wheel/tyre(s) toolbox(s), etc. The stock crate/body, gates, effluent tanks, etc. and OH&S equipment etc.
Stock crate length	The overall internal length of the livestock trailer/body.
Ullage	The air space in the top of a tank to allow for liquid expansion. Nominal tank capacity = Rated, or actual, tank capacity + ullage.
Unladen dry mass	The mass of the empty vehicle (truck/trailer) when all standard equipment, plus all the additional equipment used in normal operation is fitted and all fluid tanks are empty (fuel, AdBlue, water, effluent). For a semitrailer, this is the UTM (unladen trailer mass) plus the mass at the kingpin.
Vehicle S10 laden mass	The total simulated mass as calculated according to the Livestock Loading (S10) code. For a semitrailer this will be kingpin S10 Mass + rear axle S10 Mass.
Volume	Volume is to be calculated to the nearest litre.

Truck terms

Steer axle group rating	• The truck manufacturer's original load rating for the front axle group system, or • Rating certified under VSB6. In their absence, the minimum rating of any component that makes up the steer axle group and includes, the entire steering system, axle beam, knuckles, hubs, bearings and the suspension.
Unladen (wet) mass	The mass of the truck in running order unoccupied and unladen with all fluid reservoirs filled to nominal capacity including fuel, AdBlue and water, and with all equipment used in normal operation fitted. **Note**: Unladen wet mass is equivalent to the unladen mass detailed in the *Heavy Vehicle National Law - Queensland Class 3 Livestock Loading Exemption Notice.*

Trailer terms

Trailer unladen mass	The mass of the trailer in running order and unladen, with all fluid reservoirs filled to nominal capacity including auxiliary fuel, AdBlue and water tanks. All equipment used in normal operation fitted. The unladen trailer mass includes mass at the kingpin plus mass at axle group. **Note**: Trailer unladen mass is equivalent to the unladen mass detailed in the *Heavy Vehicle National Law - Queensland Class 3 Livestock Loading Exemption Notice*.