

# Concessional Livestock Loading – Vehicle Rating

## CODE S10

### 1. Scope

The following is a summary of the ratings which may be approved by officers authorised with modification code S10 – Concessional Livestock Loading Vehicle Rating.

Specific requirements for ratings approved under this Code are included later in this Section S10.

Refer also to Section S – Vehicle Rating for general technical guidelines for ratings performed under this Code.

#### 1.1 Ratings covered under code S10

This code is only to be used to check that when the vehicle's fuels, water, livestock capacity and distribution are assessed and when the vehicle is subjected to specified imposed loading, the vehicle component's mass ratings are not exceeded, for the following types of vehicles:

- Any Prime Mover or Dolly Trailer used for the transportation of livestock.
- Any Rigid Truck, Trailer or Semi Trailer fitted with single or multiple deck stock crates and used for the transportation of livestock.

#### 1.2 Ratings not covered under code S10

Assessment of the following vehicles are not permitted under this code:

- Assessment of a vehicle not used for the transportation of livestock or a Rigid truck, Trailer or Semi Trailer, not fitted with a single or multiple deck stock crate.

### 2. Specific Requirements

#### 2.1 General

All components must be used within manufacturer's rated capacities. In particular, Approved persons must check suspension, axle, drive train, chassis, brakes, and steering, wheel and tyre capacities.

Checklists are provided to assist the authorised officer in assessing the vehicle. The use of these is mandatory. The authorised officer must also ensure adequate records such as design drawings and calculations are maintained and part E (Declaration Section) of the checklist is completed.

#### 2.2 Imposed Loading and Limiting Provision

For the purpose of assessing vehicles under this code, the following imposed loading is applied to simulate loading due to livestock.

- (a) Semi trailers, dog trailers and rigid trucks.
  - (i) Fitted with single deck stock crates – 420kg per sq. metre of deck space

available for the carriage of livestock.

(ii) Fitted with multiple deck stock crates – 840kg per sq. metre of deck space available for the carriage of livestock divided by the number of decks.

(b) Prime movers and converter dolly trailers

Fifteen tonnes applied vertically through the centre of the fifth wheel coupling to simulate loading from a laden semi trailer.

(c) All vehicles

All vehicles are to meet regulatory dimension limits with the following additional conditions detailed in the following table.

**Table 1 Dimensional and Mass Requirement**

Vehicle type	Minimum D value requirements for couplings			Dimensional Requirements	Mass Requirements
	Fifth wheels and turntables	Automatic pin type couplings	King pins		
Prime mover - Type 2 hauling unit  - Type 1 hauling unit  - other	160Kn  140Kn  123Kn				- GCM rating must equal or exceed the tare mass of all vehicles in combination + 26 Tonnes for each semi trailer or dog trailer in combination.
Rigid Truck - Type 2 hauling unit  - other		17.5 tonnes  16.5 tonnes		Stock crate height not to exceed 4.6m.	- GCM rating must equal or exceed the rated maximum mass of the rigid truck under Section S10 of the Code + tare mass for all trailers towed + 26 tonnes for each semi trailer or dog trailer in combination.
Semi Trailer - fitted with rear pin coupling  - without rear pin		21.4 tonnes	190Kn  123Kn	'Loaded deck length' must not exceed 12.5 metres.  Stock crate height not to exceed 4.6m.	Tare mass of the trailer must not exceed 15 tonnes.
B-double combination	135Kn		135Kn	'Loaded deck length' of both trailers must not exceed 18.8 metres. Stock crate height not to exceed 4.6m.	Tare mass of trailers in combination must not exceed 22 tonnes.

**Table 1 (cont'd) Dimensional and Mass Requirement**

Vehicle type	Minimum D value requirements for couplings			Dimensional Requirements	Mass Requirements
	Fifth wheels and turntables	Automatic pin type couplings	King pins		
Converter Dolly	190Kn	21.4 tonnes			
Five axle dog trailers with no rear pin coupling	135Kn	16.5 tonnes	135Kn	'Loaded deck length' must not exceed 12.5 metres.  Stock crate height not to exceed 4.6m.	Fifth wheel and Ballrace  Turntables – 125Kn Kingpins – 125Kn Towing eyes – 17 tonnes

'Loaded deck length' is defined as:

1. for a semi-trailer as the length of the deck of the trailer measured from inside the front wall to inside the back wall of the loading space.
2. for B-double combination as the sum of the lengths of the two decks of the trailers measured from inside the front wall to inside the back wall of the loading space.

## 2.3 Tyres and Wheel Rims

The load carrying capacity of any tyre or rim must not be exceeded when specified loading is imposed on vehicle.

For vehicles manufactured to comply with ADR 24/01 the tyres and rims must be selected and must comply in all respects with the requirements of that ADR when specified loading is imposed on vehicle.

In the case of vehicles fitted with a 'tyre placard', this placard must indicate the correct tyre specifications for the vehicle when specified loading is imposed on vehicle.

## 2.4 Carrying Capacity

The vehicles fuels, water and livestock capacity and distribution must be assessed to ensure that, when vehicle is subjected to specified imposed loading, the vehicle component's mass ratings are not exceeded.

## 2.5 Modification Plate Details

The modification plate must carry the following details:

- GVM or GCM,
- Manufacturers Axle Group Ratings (in tonnes),
- Vehicle Tare Mass.
- King Pin Loads

The tare mass, axle group ratings and king pin loads are to be placed in the "MOD CODES" area of the plate using the following abbreviations.

- Tare Mass            T\*\*\*
- Front Axle Rating F\*\*\*
- Rear Axle Rating R\*\*\*
- King – Pin Load    KP\*\*\*
- Where \*... is the rating in tonnes
- For convertor dollies the code is R\*\*,

For example a semi-trailer with a tare mass of 15 tonnes, a king pin load of 15 tonnes and a rear axle capacity of 25 tonnes would have "MOD CODE"-:

**S10 – T15, KP 15.0, R 25.0**

**Checklist s10a**  
**Concessional Livestock Loading –**  
**Vehicle Rating (Prime Mover)**  
**CODE S10**

Form No: S10a  
(Y=Yes, N=No)

**APPLICATION CHART**

This form is divided into the following parts

A – CONFIGURATION AND DIMENSIONAL LIMITS

B – UNLADEN (TARE) MASS

C – IMPOSED LIVESTOCK LOADING

D – SUMMARY OF MAXIMUM LADEN MASS

E – REGISTRATION OF DETAILS AND REGISTRATION

Complete all applicable parts

**NOTES ON PARTS B, C, D AND E**

- Declarations are required in PART E by the Approved Person who compiled the form and by the vehicle owner.
- In these calculations, measurements shall be stated to the following orders of accuracy:
  - Mass to the nearest kilogram,
  - Length to the nearest 5 mm, and
  - Volume to the nearest litre.
- “Rear axle line” means the point from which rear overhang is measured.
- “Front axle line” means the centreline of the front axle group.
- “Tow Coupling Overhang” means the distance from the “rear axle line” to the pivot point of the tow coupling.

## Part A – Configuration and Dimensional Limits

<b>Vehicle Owner's Details</b>														
<b>Name</b>														
<b>Company / Business</b>														
<b>Address</b>														
<b>Vehicle Details</b>														
<b>Make</b>					<b>Model</b>					<b>Date of Manufacture</b>				
<b>Body Type</b>								<b>Body Colour</b>						
<b>VIN</b>														
<b>Chassis Number (if applicable)</b>														
<b>Engine Details</b>														
<b>Engine Number</b>							<b>Capacity</b>							
<b>Number of Cylinders</b>							<b>Fuel Type</b>							
<b>Vehicle Dimensions</b>														
<b>Overall Vehicle Length</b>							<b>Wheelbase</b>							
<b>Front Overhang</b>							<b>Rear Overhang</b>							
<b>Front Axle(s) Specifications</b>														
<b>Make</b>					<b>Model</b>					<b>Capacity</b>				
<b>Drive Axle(s) Specification</b>														
<b>Make</b>					<b>Model</b>					<b>Capacity</b>				
<b>Fifth Wheel Specifications</b>														
<b>Make</b>					<b>Model</b>					<b>D Value</b>				
<b>Turntable Specifications</b>														
<b>Make</b>					<b>Model</b>					<b>D Value</b>				

**Manufacturer's Mass Ratings (From Identification plate or manufacturer's advice)**

GVM		GCM	
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**1. Suitability for Livestock Loading**

- |            |  |          |          |
|------------|--|----------|----------|
| <b>1.1</b> | Is vehicle fitted with tandem or triaxle device?   | <b>Y</b> | <b>N</b> |
| <b>1.2</b> | Are drive axles fitted with dual tyres?  | <b>Y</b> | <b>N</b> |
| <b>1.3</b> | If twin steer configuration, is load sharing suspension system fitted to steer axles?  | <b>Y</b> | <b>N</b> |
| <b>1.4</b> | Length- is overall length of vehicle including fittings less than or equal to 12.5m?   | <b>Y</b> | <b>N</b> |
| <b>1.5</b> | Width- is overall width of vehicle excluding signalling devices less than or equal to 2.5m?  | <b>Y</b> | <b>N</b> |
| <b>1.6</b> | Height – Is overall height less than or equal to: <ul style="list-style-type: none"> <li>• 4.3 single deck crate; or</li> <li>• 4.6m multiple deck crate</li> </ul>  | <b>Y</b> | <b>N</b> |
| <b>1.7</b> | Fifth Wheel and Turntable- is the rating of the fifth wheel and ball race turntable greater than or equal to: <ul style="list-style-type: none"> <li>• For type 2 hauling unit      160Kn</li> <li>• For type 1 hauling unit      140Kn</li> <li>• For other units                      123Kn</li> </ul> | <b>Y</b> | <b>N</b> |

Note: If the answer is NO to any of the above limits the vehicle is not suitable for livestock loading scheme rating. **DO NOT PROCEED WITH RATING**



## Part B – Unladen Mass

### 1. Tare Mass

For rating purposes, the tare mass of the vehicle is its actual mass with all permanent equipment fitted, and all fuel and water tanks empty.

The vehicle must be weighed at a registered public weighbridge to determine the actual loads on the front axle and rear axle groups.

**PIN WEIGHBRIDGE TICKET HERE**

#### **VEHICLE MANUFACTURERS SPECIFICATIONS TO BE ATTACHED**

Details to include make, model, year of manufacture, front and rear axle manufacturers and specifications.

#### **WRITE AXLE LOADS IN BOXES BELOW FROM WEIGHBRIDGE TICKET**

**Front Axle Group Tare Mass (Ft) = ..... kg**

**Rear Axle Group Tare Mass (Rt) = ..... kg**

**Tare Mass (Rt + Ft) = ..... kg**

## 2. Ancillary Equipment

Draw a plan of the chassis layout showing position of fuel/water tanks, tyre racks, spare tyres etc. and the distance from the rear axle line to centre of each tank.

## 3. Fuel/Water Loading

Calculate the mass of fuel/water in each tank by multiplying the volume of each tank by 0.85kg/l for diesel, 0.78kg/l for petrol and 1.0kg/l for water. This is then multiplied by the distance from the rear axle line to the centre of each tank. These values are then added together to determine the Principal fuel/water factor. Note if the centre of any tank is behind the rear axle line, the loading factor is subtracted rather than added.

(i) Tank	(ii) Contents (Diesel) (Petrol) (Water)	(iii) Volume (l)	(iv) (iii) x 0.85kg/l for diesel (iii) x 0.78kg/l for petrol (iii) x 1.0kg/l for water	(v) Distance from rear axle line (negative if space behind rear axle) (m)	(vi) Fuel/Water loading factor (iv x v) (kgm)
1					
2					
3					
4					
5					
6					
Total Fuel/ Water mass (kg) = TFWM (Sum iv) =				PFWF (kgm) = (Sum vi) =	

Front axle line to rear axle line distance  $F_{rad} = \dots\dots\dots m$

For the purposes of determining unladen mass of the vehicle, the mass of two thirds of the fuel tank and water tank capacities is included.

Additional front axle load due to fuel/water is given by:

$$F_{fw} = 0.66PFWF/F_{rad} = \dots\dots\dots kg$$

Additional rear axle load due to fuel/water is given by:

$$R_{fw} = 0.66 \times TFWM - F_{fw} = \dots\dots\dots kg$$

**ADD THE TARE MASS TO THE FUEL MASS TO OBTAIN TOTAL UNLADEN MASS**

$F_t$  plus  $F_{fw}$

$R_t$  plus  $R_{fw}$

Front Axle

Rear Axle

**UNLADEN MASS**

$F_{Un} \dots\dots\dots kg$

$R_{Un} \dots\dots\dots kg$

## Part C – Imposed Livestock Loading

Imposed Livestock Load due to semitrailer is taken to be the minimum allowable semitrailer king pin load of 15 tonnes applied through the centreline of the fifth wheel.

Rear axle line to centreline of fifth wheel distance

$$D_{cfw} = \dots\dots\dots\text{m}$$

The loads due to livestock are calculated below:

Front Axle Load Livestock ( $F_{li}$ )

= (Imposed Livestock Load x Rear axle line to centreline of fifth wheel distance) /  
(Front axle line to rear axle line distance)

$$= \frac{(15000\text{kg} \times D_{cfw})}{F_{rad}}$$

$$= 15000\text{kg} \times \dots\dots\dots$$

$$F_{li} = \dots\dots\dots\text{kg}$$

Rear axle Load Livestock ( $R_{li}$ ) = Imposed Livestock Load – Front Axle Load Livestock ( $F_{li}$ )

$$= 15000\text{kg} - F_{li}$$

$$= 15000\text{kg} - \dots\dots\dots$$

$$R_{li} = \dots\dots\dots\text{kg}$$

**WRITE FRONT AXLE AND REAR AXLE LOADS DUE TO LIVESTOCK HERE**

Front Axle Livestock ( $F_{li}$ )= .....kg

Rear Axle Livestock ( $R_{li}$ )= .....kg

## Part D – Maximum Laden Mass

Complete the following:

	FRONT AXLE GROUP	REAR AXLE GROUP	TOTAL
UNLADEN MASS	$F_{Un}$ .....	$R_{Un}$ .....	.....
LIVESTOCK	$F_{li}$ .....	$F_{li}$ .....	.....
<hr/>			
(A) GROSS LADEN MASS (kg)			
FRONT AXLE GROUP	$F_{un} + F_{li} =$ .....		
REAR AXLE GROUP	$R_{un} + R_{li} =$ .....		
TOTAL = FRONT AXLE GROUP + REAR AXLE GROUP = .....			
COMBINATION MASS = UNLADEN MASS PLUS SEMI TRAILER MASS			
	$= F_{un} + R_{un}$ plus 41000kg		NB: (15t tare + 26t load)
	$=$ .....		
<hr/>			
(B) MANUFACTURER'S LOAD LIMITS			
FRONT AXLE GROUP	.....		
REAR AXLE GROUP	.....		
GROSS VEHICLE MASS (GVM)	.....		
GROSS COMBINATION MASS (GCM)	.....		
FRONT AXLE GROUP TYRE CAPACITY	.....		
TYRE DESIGNATION	.....x.....		
PLY TYPE/RATING	Radial/ .....		
	(Bias)		
MAXIMUM LOAD PER TYRE	.....		

(C)	TOTAL TYRE CAPACITY (FRONT AXLE GROUP)	.....
	REAR AXLE GROUP TYRE CAPACITY	.....
	TYRE DESIGNATION	.....X.....
	PLY TYPE/RATING	Radial/..... (Bias)
	MAXIMUM LOAD PER TYRE	.....
(D)	TOTAL TYRE CAPACITY (REAR AXLE GROUP)	.....
<p>Are the GROSS LADEN MASSES (A) less than or equal to the above limits (B, C and D)?</p> <p style="text-align: center;">YES/NO</p> <p>If the answer is NO the vehicle is not suitable for livestock loading scheme rating.</p> <p><b>DO NOT PROCEED WITH RATING.</b></p>		

**Note:** The front axle load is not to exceed 7 tonnes for a single steer axle and the maximum axle capacity to be shown on the plate is to be 7 tonnes.

**This page has been left blank for any additional calculations**



## Part E – Vehicle Details and Declarations

DECLARATION BY COMPLIER*			
<b>Authorised Officer</b>			
<b>MA Number</b>			
<b>I am the authorised officer who completed the calculations of laden mass and declare that the information in this form is true and correct.</b>			
<b>Signature</b>		<b>Date</b>	
<b>Company/Business</b>		<b>Telephone</b>	

DECLARATION BY VEHICLE OWNER*			
<b>Vehicle Owner</b>			
<b>Owner's Address</b>			
<b>Name of Authorised Officer</b>			
<b>As the owner of the vehicle described in this form, I declare that the calculations have been completed by the authorised officer mentioned above.</b>			
<b>Signature</b>		<b>Date</b>	
<b>Company/Business</b>		<b>Telephone</b>	

<b>The vehicle described in this form has been assessed for component load compliance for livestock loading</b>			
<b>Authorised officer who examined and approved vehicle</b>			
<b>Name</b>			
<b>Company / Business</b>			
<b>MA Number</b>			
<b>Signature</b>		<b>Date</b>	



**Checklist s10b**  
**Concessional Livestock Loading -**  
**Vehicle Rating (Rigid Truck)**  
**CODE S10**

Form No: S10b  
(Y=Yes, N=No)

**APPLICATION CHART**

This form is divided into the following parts

A – CONFIGURATION AND DIMENSIONAL LIMITS

B – UNLADEN (TARE) MASS

C – MASS OF LIVESTOCK

D – SUMMARY OF MAXIMUM LADEN MASS

E – REGISTRATION OF DETAILS AND DECLARATIONS

Complete all applicable parts

**NOTES ON PARTS B, C, D AND E**

- Declarations are required in PART E by the Approved Person who compiled the form and by the vehicle owner.
- In these calculations, measurements shall be stated to the following orders of accuracy:
  - Mass to the nearest kilogram,
  - Length to the nearest 5 mm, and
  - Volume to the nearest litre.
- “Rear axle line” means the point from which rear overhang is measured.
- “Front axle line” means the centreline of the front axle group.
- “Tow Coupling Overhang” means the distance from the “rear axle line” to the pivot point of the tow coupling.

## Part A – Configuration and Dimensional Limits

<b>Vehicle Owner's Details</b>														
<b>Name</b>														
<b>Company / Business</b>														
<b>Address</b>														
<b>Vehicle Details</b>														
<b>Make</b>					<b>Model</b>					<b>Date of Manufacture</b>				
<b>Body Type</b>								<b>Body Colour</b>						
<b>VIN</b>														
<b>Chassis Number (if applicable)</b>														
<b>Engine Details</b>														
<b>Engine Number</b>								<b>Capacity</b>						
<b>Number of Cylinders</b>								<b>Fuel Type</b>						
<b>Vehicle Dimensions</b>														
<b>Overall Vehicle Length</b>								<b>Loaded Deck Length*</b>						
<b>Wheelbase</b>								<b>Rear Overhang</b>						
<b>Front Overhang</b>														
<b>Front Axle(s) Specifications</b>														
<b>Make</b>					<b>Model</b>					<b>Capacity</b>				
<b>Drive Axle(s) Specification</b>														
<b>Make</b>					<b>Model</b>					<b>Capacity</b>				
<b>Fifth Wheel Specifications</b>														
<b>Make</b>					<b>Model</b>					<b>D Value</b>				

Turntable Specifications					
Make		Model		D Value	
Manufacturer's Mass Ratings ( <i>From Identification plate or manufacturer's advice</i> )					
GVM		GCM			

\* Loaded deck length is defined as the length of the deck measured from inside the front wall to inside the rear wall of the stock crate.

1. **Suitability for Livestock Loading –  
Vehicles with Single Steer with Single Drive Configuration only**
  - 1.1 Is the drive axle fitted with dual tyres? Y N
  - 1.2 Is a single deck stock crate fitted to vehicle? Y N
2. **Suitability for Livestock Loading –  
Vehicles with other axle configurations only**
  - 2.1 Is the vehicle fitted with tandem or tri-axle drive? Y N
  - 2.2 Are drive axles fitted with dual tyres? Y N
  - 2.3 If twin steer configuration, is a load sharing suspension system fitted to steer axles? N/A Y N
3. **Suitability for Livestock Loading –  
General requirements for all vehicles**
  - 3.1 Length- is overall length of vehicle including fittings less than or equal to 12.5m? Y N
  - 3.2 Width- Is overall width of vehicle excluding signalling devices less than or equal to 2.5m? Y N
  - 3.3 Height – Is overall height less than or equal to: Y N
    - 4.3 single deck crate; or
    - 4.6m multiple deck crate
  - 3.4 Tow coupling – is rating of the tow coupling greater than or equal to: Y N
    - For type 2 hauling unit - 17.5 tonnes
    - Other units - 16.5 tonnes

Note: If the answer is NO to any of the above limits the vehicle is not suitable for livestock loading scheme rating **DO NOT PROCEED WITH RATING**.

## Part B – Unladen Mass

### 1. Tare Mass

For rating purposes, the tare mass of the vehicle is its actual mass with all permanent equipment fitted, and all fuel and water tanks empty.

The vehicle must be weighed at a registered public weighbridge to determine the actual loads on the front axle and rear axle groups.

**PIN WEIGHBRIDGE TICKET HERE**

#### **VEHICLE MANUFACTURERS SPECIFICATIONS TO BE ATTACHED**

Details to include make, model, year of manufacture, front and rear axle manufacturers and specifications.

#### **WRITE AXLE LOADS IN BOXES BELOW FROM WEIGHBRIDGE TICKET**

**Front Axle Group Tare Mass ( $F_t$ ) = ..... kg**

**Rear Axle Group Tare Mass ( $R_t$ ) = ..... kg**

**Tare Mass ( $R_t + F_t$ ) = ..... kg**

## 2. Ancillary Equipment

Draw a plan of the chassis layout showing position of fuel/water tanks, tyre racks, spare tyres etc. and the distance from the rear axle line to centre of each tank.

## 3. Fuel/Water Loading

Calculate the mass of fuel/water in each tank by multiplying the volume of each tank by 0.85kg/l for diesel, 0.78g/l for petrol and 1.0kg/l for water. This is then multiplied by the distance from the rear axle line to the centre of each tank. These values are then added together to determine the Principal fuel/water factor. Note if the centre of any tank is behind the rear axle line, the loading factor is subtracted rather than added.

(i) Tank	(ii) Contents (Diesel) (Petrol) (Water)	(iii) Volume (l)	(iv) (iii) x 0.85g/l for diesel (iii) x 0.78g/l for petrol (iii) x 1.0kg/l for water	(v) Distance from rear axle line (negative if space behind rear axle) (m)	(vi) Fuel/Water loading factor (iv x v) (kgm)
1					
2					
3					
4					
5					
6					
Total Fuel/ Water mass (kg) = TFWM (Sum iv) =				PFWF (kgm) = (Sum vi) =	

Front axle line to rear axle line distance  $F_{rad} = \dots\dots\dots m$

For the purposes of determining unladen mass of the vehicle, the mass of two thirds of the fuel tank and water tank capacities is included.

For the purposes of determining unladen mass of the vehicle, the mass of two thirds of the fuel tank and water tank capacities is included.

Additional front axle load due to fuel/water is given by:

$$F_{fw} = 0.66PFWF/F_{rad} = \dots\dots\dots kg$$

Additional rear axle load due to fuel/water is given by:

$$R_{fw} = 0.66 \times TFWM - F_{fw} = \dots\dots\dots kg$$

**ADD THE TARE MASS TO THE FUEL MASS TO OBTAIN TOTAL UNLADEN MASS**

$F_t$  plus  $F_{fw}$

$R_t$  plus  $R_{fw}$

Front Axle

Rear Axle

**UNLADEN MASS**

$F_{un} \dots\dots\dots kg$

$R_{un} \dots\dots\dots kg$

## Part C – Mass of Livestock

Draw a plan of the deck areas on the vehicle that is available for the carriage of livestock. Mark in the position of the rear axle line. (One plan for each deck).

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 box-like sections. The table on the next page can be used for calculations.

Measure the distance from the rear axle line to the centre of area of each livestock section.

Calculate the mass of livestock by multiplying the area of each space by 420kg/m<sup>2</sup> for single deck crates, or (840kg/m<sup>2</sup>)/n for multiple deck crates where n = no of decks. This is then multiplied by the distance from the rear axle line to the centre of each livestock space. These values are then added together to determine the Principal Livestock factor. Note if the centre of any livestock space is behind the rear axle line, the loading factor is subtracted rather than added.

(i) Livestock Space	(ii) Length (m)	(iii) Width (m)	(iv) Livestock Area (m <sup>2</sup> ) (ii) x (iii)	(v) (iv) x 420kg/m <sup>2</sup> (single deck trailer) or  (iv) x 840kg/m <sup>2</sup> /n n=no. of decks for multi deck trailer	(vi) Distance from rear axle line to centre of livestock space (negative if space behind rear axle)	(vii) Livestock Loading Factor  (v) x (vi)
1						
2						
3						
4						
5						
6						
Total Livestock Area (TLA) (sum iv) = _____ m <sup>2</sup> Total Livestock Mass (TLM) (sum v) _____ = _____ kg Principal Livestock Factor (PLF) (sum vii) _____ = _____ kgm						



The loads due to livestock are calculated below:

Front Axle Load Livestock ( $F_{li}$ )

= Principal Livestock Factor / Front axle line to rear axle line distance  
( $F_{rad}$ )

=  $\frac{PLF}{F_{rad}}$

$F_{li}$  = .....kg

Rear axle Load Livestock ( $R_{li}$ ) = Total Livestock Mass – Front Axle Load Livestock  
( $F_{li}$ )

= TLM -  $F_{li}$

= ..... - .....

$R_{li}$  = .....kg

**WRITE FRONT AXLE AND REAR AXLE LOADS DUE TO LIVESTOCK HERE**

Front Axle Livestock ( $F_{li}$ )= .....kg

Rear Axle Livestock ( $R_{li}$ )= .....kg

## Part D – Maximum Laden Mass

Complete the following:

	FRONT AXLE GROUP	REAR AXLE GROUP	TOTAL
UNLADEN MASS	$F_{Un}$ .....	$R_{Un}$ .....	.....
LIVESTOCK	$F_{li}$ .....	$F_{li}$ .....	.....

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(A) GROSS LADEN MASS (kg)

FRONT AXLE GROUP                       $F_{un} + F_{li} =$  .....

REAR AXLE GROUP                       $R_{un} + R_{li} =$  .....

TOTAL = FRONT AXLE GROUP + REAR AXLE GROUP =  
 .....

COMBINATION MASS = UNLADEN MASS PLUS SEMI TRAILER MASS

=  $F_{un} + R_{un}$  plus 41000kg                      NB: (15t tare + 26t load)

= .....

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(B) MANUFACTURER'S LOAD LIMITS

FRONT AXLE GROUP                      .....

REAR AXLE GROUP                      .....

GROSS VEHICLE MASS (GVM)                      .....

GROSS COMBINATION MASS (GCM)                      .....

FRONT AXLE GROUP TYRE CAPACITY                      .....

TYRE DESIGNATION                      .....X.....

PLY TYPE/RATING                      Radial/ .....

(Bias)

MAXIMUM LOAD PER TYRE                      .....

(C)	TOTAL TYRE CAPACITY (FRONT AXLE GROUP)	.....
	REAR AXLE GROUP TYRE CAPACITY	.....
	TYRE DESIGNATION	.....X.....
	PLY TYPE/RATING	Radial/..... (Bias)
	MAXIMUM LOAD PER TYRE	.....
(D)	TOTAL TYRE CAPACITY (REAR AXLE GROUP)	.....
<p>Are the GROSS LADEN MASSES (A) less than or equal to the above limits (B, C and D)?</p> <p>YES/NO</p> <p>If the answer is NO the vehicle is not suitable for livestock loading scheme rating.</p> <p><b>DO NOT PROCEED WITH RATING.</b></p>		

**Note:** The front axle load is not to exceed 7 tonnes for a single steer axle and the maximum axle capacity to be shown on the plate is to be 7 tonnes.

**This page have been left blank for any additional calculations**



## Part E – Vehicle Details and Declarations

DECLARATION BY COMPLIER*			
<b>Authorised Officer</b>			
<b>MA Number</b>			
<b>I am the authorised officer who completed the calculations of laden mass and declare that the information in this form is true and correct.</b>			
<b>Signature</b>		<b>Date</b>	
<b>Company/Business</b>		<b>Telephone</b>	

DECLARATION BY VEHICLE OWNER*			
<b>Vehicle Owner</b>			
<b>Owner's Address</b>			
<b>Name of Authorised Officer</b>			
<b>As the owner of the vehicle described in this form, I declare that the calculations have been completed by the authorised officer mentioned above.</b>			
<b>Signature</b>		<b>Date</b>	
<b>Company/Business</b>		<b>Telephone</b>	

<b>The vehicle described in this form has been assessed for component load compliance for livestock loading</b>			
<b>Authorised officer who examined and approved vehicle</b>			
<b>Name</b>			
<b>Company / Business</b>			
<b>MA Number</b>			
<b>Signature</b>		<b>Date</b>	

**Checklist s10c**  
**Concessional Livestock Loading –**  
**Vehicle Rating (B-Double Trailer or Semitrailer)**  
**CODE S10**

Form No: S10c  
(Y=Yes, N=No)

**APPLICATION CHART**

This form is divided into the following parts

A – CONFIGURATION AND DIMENSIONAL LIMITS

B – UNLADEN (TARE) MASS

C – MASS OF LIVESTOCK

D – SUMMARY OF MAXIMUM LADEN MASS

E – REGISTRATION OF DETAILS AND DECLARATIONS

Complete all applicable parts

**NOTES ON PARTS B, C, D AND E:**

- Declarations are required in PART E by the Approved Person who compiled the form and by the vehicle owner.
- In these calculations, measurements shall be stated to the following orders of accuracy:
  - Mass to the nearest kilogram,
  - Length to the nearest 5 mm, and
  - Volume to the nearest litre.
- “Rear axle line” means the point from which rear overhang is measured.

## Part A – Configuration and Dimensional Limits

Vehicle Owner's Details																
<b>Name</b>																
<b>Company / Business</b>																
<b>Address</b>																
Vehicle Details																
<b>Make</b>					<b>Model</b>					<b>Date of Manufacture</b>						
<b>Body Type</b>								<b>Body Colour</b>								
<b>VIN</b>																
<b>Chassis Number (if applicable)</b>																
Vehicle Dimensions																
<b>Overall Vehicle Length</b>								<b>Wheelbase</b>								
<b>Loaded Deck Length*</b>								<b>Stock Crate Length</b>								
<b>Front Overhang</b>								<b>Rear Overhang</b>								
Rear Axle Group Specifications (trailer)																
<b>Make</b>					<b>Model</b>					<b>Capacity</b>						
King Pin Specification																
<b>Make</b>					<b>Model</b>					<b>D Value</b>						
Tow Coupling Specifications																
<b>Make</b>					<b>Model</b>					<b>D Value</b>						

<b>For B Double Lead Trailer only</b>					
<b>Fifth Wheel Specifications</b>					
<b>Make</b>		<b>Model</b>		<b>D Value</b>	
<b>Turntable Specifications</b>					
<b>Make</b>		<b>Model</b>		<b>D Value</b>	
<b>Manufacturer's Mass Ratings (From Identification plate or manufacturer's advice)</b>					
<b>ATM</b>					

\* Loaded deck length is defined as:

1. For a semi trailer, as the length of the deck of the trailer measured from inside the front wall to the inside of the back wall of the loading space;
2. For B double combinations, as the sum of lengths of the two decks of the trailers measured from inside the front wall to inside of the back wall of the loading space.

#### 1 Suitability for Livestock Loading

- |            |   |          |          |
|------------|---|----------|----------|
| <b>1.1</b> | Loaded Deck Length – is the overall deck length of the vehicle or combination less than or equal to: <ul style="list-style-type: none"> <li>• For B doubles - 18.8m</li> <li>• For semi trailers - 12.5m</li> </ul> | <b>Y</b> | <b>N</b> |
| <b>1.2</b> | Width - is the overall width of the vehicle excluding signalling devices less than or equal to 2.5m?  | <b>Y</b> | <b>N</b> |
| <b>1.3</b> | Height – is the overall height less than or equal to: <ul style="list-style-type: none"> <li>• 4.3m single deck crate or</li> <li>• 4.6m multiple deck crate</li> </ul>   | <b>Y</b> | <b>N</b> |
| <b>1.4</b> | Rear Axle Group – is the trailer fitted with a triaxle rear axle group?   | <b>Y</b> | <b>N</b> |
| <b>1.5</b> | Rear Axle Group - Are all axles fitted with dual tyres?   | <b>Y</b> | <b>N</b> |
| <b>1.6</b> | Rear Tow Coupling - is the tow coupling rating greater than or equal to 21.4 tonnes?  | <b>Y</b> | <b>N</b> |
| <b>1.7</b> | For B Double lead trailers – are the ratings for the fifth wheel and turntable greater than or equal to 135Kn?  | <b>Y</b> | <b>N</b> |

Note: If the answer is NO to any of the above limits the vehicle is not suitable for Concessional livestock loading. **DO NOT PROCEED WITH RATING**



## Part B - Unladen Mass

### 1. Tare Mass

For rating purposes, the tare mass of the vehicle is its actual mass with all permanent equipment fitted, and all fuel and water tanks empty.

The vehicle must be weighed at a registered public weighbridge to determine the actual loads on the front axle and rear axle groups.

**PIN WEIGHBRIDGE TICKET HERE**

**VEHICLE MANUFACTURERS SPECIFICATIONS TO BE ATTACHED**

Details to include make, model, year of manufacture, front and rear axle manufacturers and specifications.

**WRITE AXLE LOADS IN BOXES BELOW FROM WEIGHBRIDGE TICKET**

**King Pin Mass (Kt) = ..... kg**

**Rear Axle Tare Mass (Rt) = ..... kg**

**Tare Mass (Rt + Kt) = ..... kg**

Is tare mass less than or equal to 15 tonnes?

YES/NO

If NO, the vehicle is unsuitable for concessional livestock loading

**DO NOT PROCEED WITH RATING**

If YES continue with rating

## 2. Ancillary Equipment

Draw a plan of the chassis layout showing position of fuel/water tanks, tyre racks, spare tyres etc. and the distance from the rear axle line to centre of each tank.

## 3. Fuel/Water Loading

Calculate the mass of fuel/water in each tank by multiplying the volume of each tank by 0.85g/l for diesel, 0.78g/l for petrol and 1.0kg/l for water. This is then multiplied by the distance from the rear axle line to the centre of each tank. These values are then added together to determine the Principal fuel/water factor. Note if the centre of any tank is behind the rear axle line, the loading factor is subtracted rather than added.

(i) Tank	(ii) Contents (Diesel) (Petrol) (Water)	(iii) Volume (l)	(iv) (iii) x 0.85g/l for diesel (iii) x 0.78g/l for petrol (iii) x 1.0kg/l for water	(v) Distance from rear axle line (negative if space behind rear axle) (m)	(vi) Fuel/Water loading factor (iv x v) (kgm)
1					
2					
3					
4					
5					
6					
Total Fuel/ Water mass (kg) = TFWM (Sum iv) =				PFWF (kgm) = (Sum vi) =	

King pin to rear axle line distance  $F_{rad} = \dots\dots\dots m$

For the purposes of determining unladen mass of the vehicle, the mass of two thirds of the fuel tank and water tank capacities is included.

Additional king pin load due to fuel/water is given by:

$$K_{fw} = 0.66PFWF/K_{rad} = \dots\dots\dots kg$$

Additional rear axle load due to fuel/water is given by:

$$R_{fw} = 0.66 \times TFWM - K_{fw} = \dots\dots\dots kg$$

**ADD THE TARE MASS TO THE FUEL MASS TO OBTAIN TOTAL UNLADEN MASS**

Kt plus Kfw

Rt plus Rfw

King Pin

Rear Axle

Kun.....kg

**UNLADEN MASS**

Run.....kg

## Part C – Mass of Livestock

Draw a plan of the deck areas on the vehicle that is available for the carriage of livestock. Mark in the position of the rear axle line. (One plan for each deck).

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 box-like sections. The table on the next page can be used for calculations.

Measure the distance from the rear axle line to the centre of area of each livestock section.

Calculate the mass of livestock by multiplying the area of each space by 420kg/m<sup>2</sup> for single deck crates, or (840kg/m<sup>2</sup>)/n for multiple deck crates where n = no of decks. This is then multiplied by the distance from the rear axle line to the centre of each livestock space. These values are then added together to determine the Principal Livestock factor. Note if the centre of any livestock space is behind the rear axle line, the loading factor is subtracted rather than added.

(i) Livestock Space	(ii) Length (m)	(iii) Width (m)	(iv) Livestock Area (m <sup>2</sup> ) (ii) x (iii)	(v) (iv) x 420kg/m <sup>2</sup> (single deck trailer) or  (iv) x 840kg/m <sup>2</sup> /n n=no. of decks for multi deck trailer	(vi) Distance from rear axle line to centre of livestock space (negative if space behind rear axle)	(vii) Livestock Loading Factor  (v) x (vi)
1						
2						
3						
4						
5						
6						
Total Livestock Area (TLA) (sum iv) = _____ m <sup>2</sup> Total Livestock Mass (TLM) (sum v) _____ = _____ kg Principal Livestock Factor (PLF) (sum vii) _____ = _____ kgm						

The loads due to livestock are calculated below:

King Pin Load Livestock ( $K_{ij}$ )

= Principal Livestock Factor / King pin to rear axle line distance ( $K_{ad}$ )

=  $\frac{PLF}{K_{rad}}$

$K_{rad}$

$K_{ij} = \dots\dots\dots$ .kg

Rear axle Load Livestock ( $R_{ij}$ ) = Total Livestock Mass – King Pin Load Livestock ( $K_{ij}$ )

= TLM -  $K_{ij}$

=  $\dots\dots\dots - \dots\dots\dots$

$R_{ij} = \dots\dots\dots$ .kg

**WRITE KING PIN AND REAR AXLE LOADS DUE TO LIVESTOCK HERE**

King Pin Load Livestock ( $K_{ij}$ )=  $\dots\dots\dots$ .kg

Rear Axle Livestock ( $R_{ij}$ )=  $\dots\dots\dots$ .kg

Is Trailer a B-double?

Lead Trailer Yes/No

If Yes complete following section

If No go to Part D – Maximum Laden Mass

### ADDITIONAL CALCULATIONS FOR B-DOUBLE LEAD TRAILERS

Draw side view of trailer showing king pin, axle group centreline and fifth wheel positions.

Record king pin to centreline of axle group distance in metres  $D_{fw} =$

Record centreline of fifth wheel to centreline of axle group distance in metres  $D_{rw} =$

(Negative if fifth wheel centreline is behind axle C/L).

15 tonne load is imposed on fifth wheel of B-Double lead trailer to simulate maximum imposed loading from live stock semi trailer.

Calculate additional load on lead trailer as follows

$$\text{King Pin load } KP_{it} = \frac{15 \times D_{fw}}{D_{kp}} \text{ tonnes}$$

(Negative value means a reduction in king pin mass)

Triaxle group load  $A_{it} = 15 - (KP_{it})$  tonnes

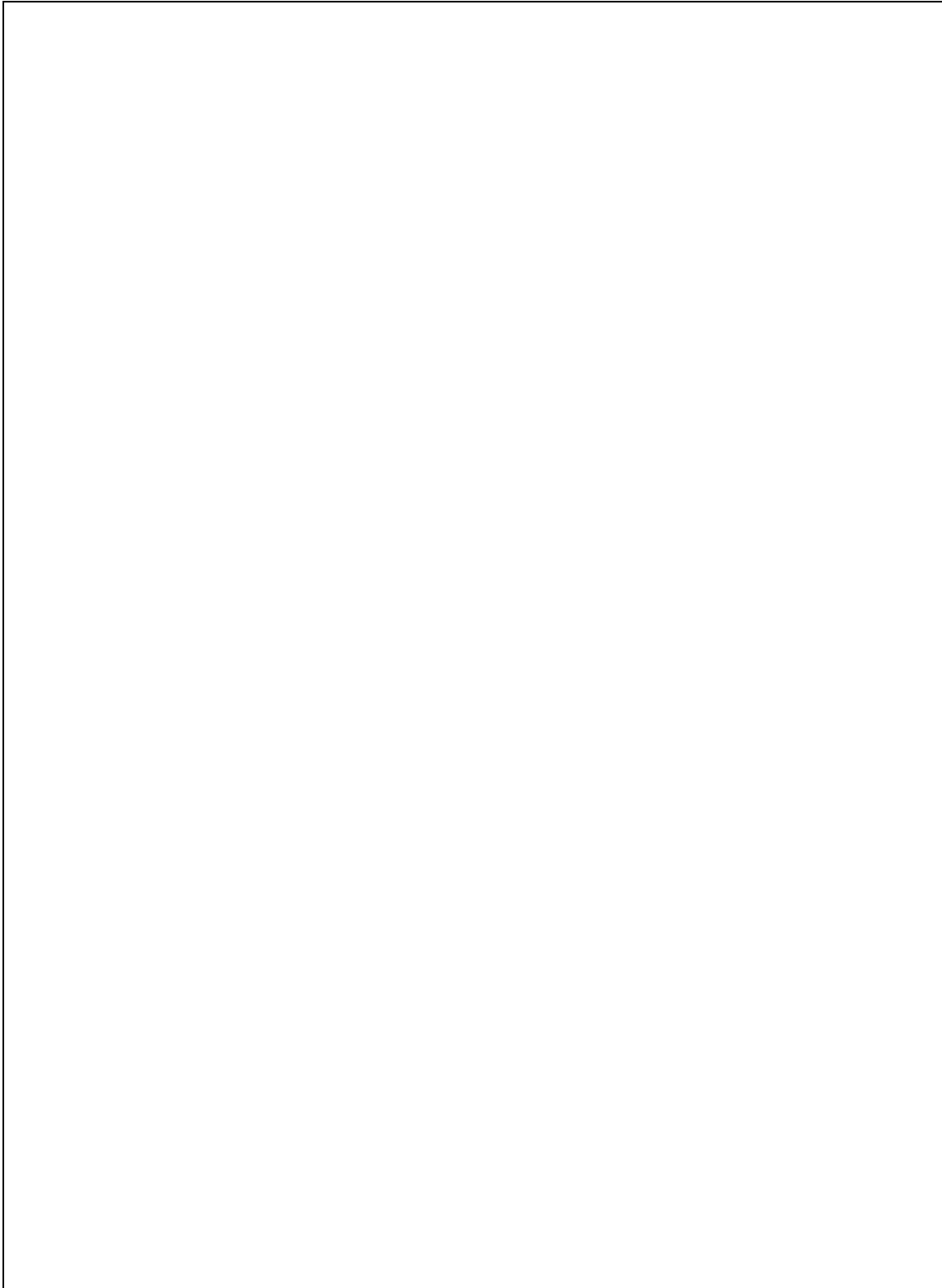
Add  $KP_{it}$  and  $A_{it}$  to already calculated values to obtain Total Masses on trailer.

## Part D – Maximum Laden Mass

Complete the following:			
	KING PIN	REAR AXLE GROUP	TOTAL
UNLADEN MASS	$K_{Un}$ .....	$R_{Un}$ .....	.....
LIVESTOCK	$K_{li}$ .....	$R_{li}$ .....	.....
<b>(A) GROSS LADEN MASS (kg)</b>			
KING PIN	$K_{un} + K_{li} =$ .....		
REAR AXLE GROUP	$R_{un} + R_{li} =$ .....		
TOTAL = KING PIN + REAR AXLE GROUP = .....			
<b>(B) MANUFACTURER'S LOAD LIMITS</b>			
KING PIN	.....		
REAR AXLE GROUP	.....		
AGGREGATE TRAILER MASS (ATM)	.....		
<b>(C) MAXIMUM KING PIN LOAD LESS THAN OR EQUAL TO 15 TONNES</b>			
<b>(D) REAR AXLE GROUP TYRE CAPACITY</b> .....			
TYRE DESIGNATION	.....x.....		
	Radial/.....		
PLY TYPE/RATING	(Bias)		
MAXIMUM LOAD PER TYRE	.....		
TOTAL TYRE CAPACITY (REAR AXLE GROUP)	.....		
Are the GROSS LADEN MASSES (A) less than or equal to the above limits (B, C and D)?			
YES/NO			
If the answer is NO the vehicle is not suitable for livestock loading scheme rating.			
<b>DO NOT PROCEED WITH RATING.</b>			



**This page has been left blank for any additional calculations**



## Part E – Vehicle Details and Declarations

DECLARATION BY COMPLIER*			
<b>Authorised Officer</b>			
<b>MA Number</b>			
<b>I am the authorised officer who completed the calculations of laden mass and declare that the information in this form is true and correct.</b>			
<b>Signature</b>		<b>Date</b>	
<b>Company/Business</b>		<b>Telephone</b>	

DECLARATION BY VEHICLE OWNER*			
<b>Vehicle Owner</b>			
<b>Owner's Address</b>			
<b>Name of Authorised Officer</b>			
<b>As the owner of the vehicle described in this form, I declare that the calculations have been completed by the authorised officer mentioned above.</b>			
<b>Signature</b>		<b>Date</b>	
<b>Company/Business</b>		<b>Telephone</b>	

<b>The vehicle described in this form has been assessed for component load compliance for livestock loading</b>			
<b>Authorised officer who examined and approved vehicle</b>			
<b>Name</b>			
<b>Company / Business</b>			
<b>MA Number</b>			
<b>Signature</b>		<b>Date</b>	

**Checklist s10d**  
**Concessional Livestock Loading –**  
**Vehicle Rating (Dog Trailer or Semitrailer)**  
**CODE S10**

Form No: S10d  
(Y=Yes, N=No)

**APPLICATION CHART**

This form is divided into the following parts

A – CONFIGURATION AND DIMENSIONAL LIMITS

B – UNLADEN (TARE) MASS

C – MASS OF LIVESTOCK

D – SUMMARY OF MAXIMUM LADEN MASS

E – REGISTRATION OF DETAILS AND DECLARATIONS

Complete all applicable parts

**NOTES ON PARTS B, C, D AND E**

- Declarations are required in PART E by the Approved Person who compiled the form and by the vehicle owner.
- In these calculations, measurements shall be stated to the following orders of accuracy:
  - Mass to the nearest kilogram,
  - Length to the nearest 5 mm, and
  - Volume to the nearest litre.
- “Rear axle line” means the point from which rear overhang is measured.
- “Front axle line” means the centreline of the front axle group.

## Part A – Configuration and Dimensional Limits

Vehicle Owner's Details															
Name															
Company / Business															
Address															
Vehicle Details															
Make					Model					Date of Manufacture					
Body Type								Body Colour							
VIN															
Chassis Number (if applicable)															
Vehicle Dimensions															
Overall Vehicle Length								Wheelbase							
Loaded Deck Length*								Loaded Tray Length							
Front Overhang								Rear Overhang							
Drawbar Length															
Front Axle Group Specifications (trailer)															
Make					Model					Capacity					
Rear Axle Group Specifications (trailer)															
Make					Model					Capacity					
King Pin Specification															
Make					Model					D Value					
Fifth Wheel Specifications															
Make					Model					D Value					

Turntable Specifications					
Make		Model		D Value	
King Pin Specifications					
Make		Model		D Value	
Fifth Wheel Specifications					
Make		Model		D Value	
Manufacturer's Mass Ratings ( <i>From Identification plate or manufacturer's advice</i> )					
ATM					

\*Loaded deck length is defined as the length of the deck of the stock crate measured from inside the front wall to the inside of the rear wall.

- 1 Suitability for Livestock Loading**
- 1.1** Loaded Deck Length – is the overall deck length of the vehicle less than or equal to 12.5m? **Y N**
- 1.2** Drawbar Length – is the distance from the centre of the drawbar coupling to Front Axle Line less than or equal to 5.0m? **Y N**
- 1.3** Width- is the overall width of the vehicle excluding signalling devices less than or equal to 2.5m? **Y N**
- 1.4** Height – is the overall height less than or equal to:- **Y N**
  - 4.3m single deck crate or
  - 4.6m multiple deck crate
- 1.5** Rear Axle Group – is the trailer fitted with a triaxle rear axle group? **Y N**
- 1.6** Front Axle Group- is the trailer fitted with a tandem axle front axle group? **Y N**
- 1.7** Are all axles fitted with dual tyres? **Y N**
- 1.8** King Pin- is the rating of the King Pin greater than or equal to: **Y N**
  - For dog trailers with a rear coupling - 190Kn
  - For dog trailers without a rear coupling - 135Kn

- |             |  |          |          |
|-------------|--|----------|----------|
| <b>1.9</b>  | Fifth Wheel – is the rating of the fifth wheel and/or turntable greater than or equal to: <ul style="list-style-type: none"><li>• For dog trailers with a rear coupling - 190Kn</li><li>• For dog trailers without a rear coupling - 135Kn</li></ul> | <b>Y</b> | <b>N</b> |
| <b>1.10</b> | Towing Eye – is the rating for the drawbar towing eye greater than or equal to: <ul style="list-style-type: none"><li>• For dog trailers with a rear coupling - 190Kn</li><li>• For dog trailers without a rear coupling - 135Kn</li></ul>           | <b>Y</b> | <b>N</b> |
| <b>1.11</b> | Rear Tow Coupling – is the tow coupling rating greater than or equal to 16.5 tonnes?   | <b>Y</b> | <b>N</b> |

Note: If the answer is NO to any of the above limits the vehicle is not suitable for Concessional livestock loading. **DO NOT PROCEED WITH RATING**

## Part B – Unladen Mass

### 1. Tare Mass

For rating purposes, the tare mass of the vehicle is its actual mass with all permanent equipment fitted, and all fuel and water tanks empty.

The vehicle must be weighed at a registered public weighbridge to determine the actual loads on the front axle and rear axle groups.

**PIN WEIGHBRIDGE TICKET HERE**

#### **VEHICLE MANUFACTURERS SPECIFICATIONS TO BE ATTACHED**

Details to include make, model, year of manufacture, front and rear axle manufacturers and specifications.

#### **WRITE AXLE LOADS IN BOXES BELOW FROM WEIGHBRIDGE TICKET**

**Front Axle Tare Mass (Ft) = ..... kg**

**Rear Axle Tare Mass (Rt) = ..... kg**

**Tare Mass (Rt + Ft) = ..... kg**

Is tare mass less than or equal to 15 tonnes? YES/NO

If NO, the vehicle is unsuitable for concessional livestock loading

**DO NOT PROCEED WITH RATING**

If YES continue with rating

## 2. Ancillary Equipment

Draw a plan of the chassis layout showing position of fuel/water tanks, tyre racks, spare tyres etc. and the distance from the rear axle line to centre of each tank.

## 3. Fuel/Water Loading

Calculate the mass of fuel/water in each tank by multiplying the volume of each tank by 0.85kg/l for diesel, 0.78kg/l for petrol and 1.0kg/l for water. This is then multiplied by the distance from the rear axle line to the centre of each tank. These values are then added together to determine the Principal fuel/water factor. Note if the centre of any tank is behind the rear axle line, the loading factor is subtracted rather than added.

(i) Tank	(ii) Contents (Diesel) (Petrol) (Water)	(iii) Volume (l)	(iv) (iii) x 0.85kg/l for diesel (iii) x 0.78kg/l for petrol (iii) x 1.0kg/l for water	(v) Distance from rear axle line (negative if space behind rear axle) (m)	(vi) Fuel/Water loading factor (iv x v) (kgm)
1					
2					
3					
4					
5					
6					
Total Fuel/ Water mass (kg) = TFWM (Sum iv) =				PFWF (kgm) = (Sum vi) =	



Front axle line to rear axle line distance  $F_{rad} = \dots\dots\dots m$

For the purposes of determining unladen mass of the vehicle, the mass of two thirds of the fuel tank and water tank capacities is included.

Additional front axle load due to fuel/water is given by:

$$F_{fw} = 0.66PFWF/F_{rad} = \dots\dots\dots kg$$

Additional rear axle load due to fuel/water is given by:

$$R_{fw} = 0.66 \times TFWM - F_{fw} = \dots\dots\dots kg$$

**ADD THE TARE MASS TO THE FUEL MASS TO OBTAIN TOTAL UNLADEN MASS**

$F_t$  plus  $F_{fw}$

$R_t$  plus  $R_{fw}$

Front Axle

Rear Axle

**UNLADEN MASS**

$F_{un} \dots\dots\dots kg$

$R_{un} \dots\dots\dots kg$

## Part C – Mass of Livestock

Draw a plan of the deck areas on the vehicle that is available for the carriage of livestock. Mark in the position of the rear axle line. (One plan for each deck).

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 box-like sections. The table on the next page can be used for calculations.

Measure the distance from the rear axle line to the centre of area of each livestock section.

Calculate the mass of livestock by multiplying the area of each space by 420kg/m<sup>2</sup> for single deck crates, or (840kg/m<sup>2</sup>)/n for multiple deck crates where n = no of decks. This is then multiplied by the distance from the rear axle line to the centre of each livestock space. These values are then added together to determine the Principal Livestock factor. Note if the centre of any livestock space is behind the rear axle line, the loading factor is subtracted rather than added.

(i) Livestock Space	(ii) Length (m)	(iii) Width (m)	(iv) Livestock Area (m <sup>2</sup> ) (ii) x (iii)	(v) (iv) x 420kg/m <sup>2</sup> (single deck trailer) or  (iv) x 840kg/m <sup>2</sup> /n n=no. of decks for multi deck trailer	(vi) Distance from rear axle line to centre of livestock space (negative if space behind rear axle)	(vii) Livestock Loading Factor  (v) x (vi)
1						
2						
3						
4						
5						
6						
Total Livestock Area (TLA) (sum iv) = _____ m <sup>2</sup> Total Livestock Mass (TLM) (sum v) _____ = _____ kg Principal Livestock Factor (PLF) (sum vii) _____ = _____ kgm						

The loads due to livestock are calculated below:

Front Axle Load Livestock ( $F_{li}$ )

= Principal Livestock Factor / Front Axle Line to rear axle line distance  
( $F_{rad}$ )

=  $\frac{PLF}{F_{rad}}$

$F_{li}$  = .....kg

Rear axle Load Livestock ( $R_{li}$ ) = Total Livestock Mass – Front Axle Load Livestock  
( $F_{li}$ )

= TLM -  $F_{li}$

= ..... - .....

$R_{li}$  = .....kg

**WRITE KING PIN AND REAR AXLE LOADS DUE TO LIVESTOCK HERE**

Front Axle Livestock ( $F_{li}$ )= .....kg

Rear Axle Livestock ( $R_{li}$ )= .....kg

## Part D – Maximum Laden Mass

Complete the following:			
	FRONT AXLE GROUP	REAR AXLE GROUP	TOTAL
UNLADEN MASS	$F_{Un}$ .....	$R_{Un}$ .....	.....
LIVESTOCK	$F_{li}$ .....	$R_{li}$ .....	.....
(A) GROSS LADEN MASS (kg)			
FRONT AXLE GROUP	$F_{un} + F_{li} =$ .....		
REAR AXLE GROUP	$R_{un} + R_{li} =$ .....		
TOTAL = FRONT AXLE GROUP + REAR AXLE GROUP = .....			
(B) MANUFACTURER'S LOAD LIMITS			
FRONT AXLE GROUP	.....		
REAR AXLE GROUP	.....		
AGGREGATE TRAILER MASS (ATM)	.....		
(C) FRONT AXLE GROUP TYRE CAPACITY			
TYRE DESIGNATION	.....x.....		
PLY TYPE/RATING	Radial/.....		
	(Bias)		
MAXIMUM LOAD PER TYRE	.....		
TOTAL TYRE CAPACITY (FRONT AXLE GROUP)	.....		

(D)	REAR AXLE GROUP TYRE CAPACITY	.....
	TYRE DESIGNATION	.....x.....
	PLY TYPE/RATING	Radial/..... (Bias)
	MAXIMUM LOAD PER TYRE	.....
	TOTAL TYRE CAPACITY (REAR AXLE GROUP)	.....

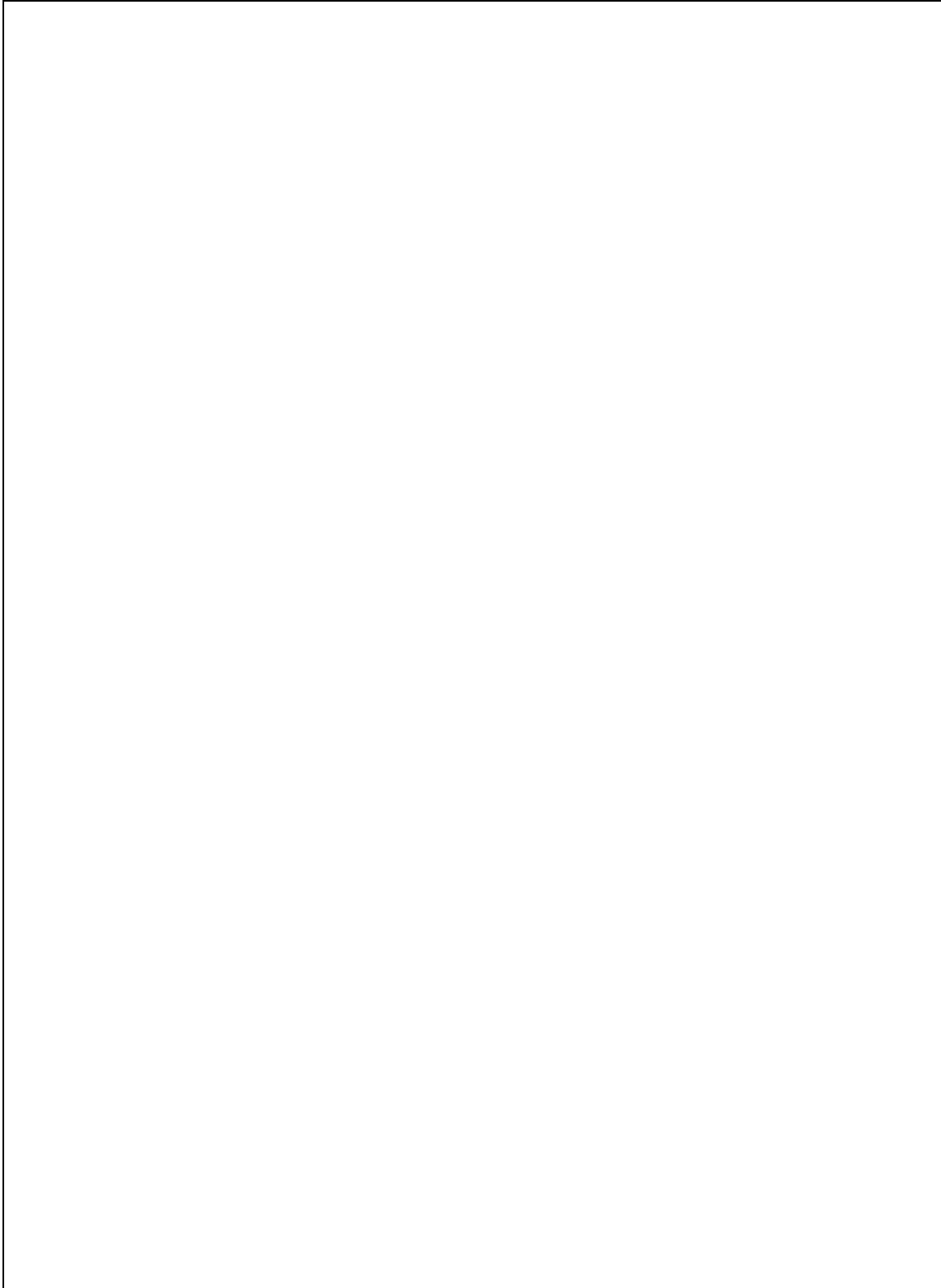
Are the GROSS LADEN MASSES (A) less than or equal to the above limits (B, C and D)?

YES/NO

If the answer is NO the vehicle is not suitable for livestock loading scheme rating.

**DO NOT PROCEED WITH RATING.**

**This page has been left blank for any additional calculations**



## Part E – Vehicle Details and Declarations

DECLARATION BY COMPLIER*			
<b>Authorised Officer</b>			
<b>MA Number</b>			
<b>I am the authorised officer who completed the calculations of laden mass and declare that the information in this form is true and correct.</b>			
<b>Signature</b>		<b>Date</b>	
<b>Company/Business</b>		<b>Telephone</b>	

DECLARATION BY VEHICLE OWNER*			
<b>Vehicle Owner</b>			
<b>Owner's Address</b>			
<b>Name of Authorised Officer</b>			
<b>As the owner of the vehicle described in this form, I declare that the calculations have been completed by the authorised officer mentioned above.</b>			
<b>Signature</b>		<b>Date</b>	
<b>Company/Business</b>		<b>Telephone</b>	

<b>The vehicle described in this form has been assessed for component load compliance for livestock loading</b>			
<b>Authorised officer who examined and approved vehicle</b>			
<b>Name</b>			
<b>Company / Business</b>			
<b>MA Number</b>			
<b>Signature</b>		<b>Date</b>	



**Checklist s10e**  
**Concessional Livestock Loading -**  
**Vehicle Rating (Dolly Trailer)**  
**CODE S10**

Form No: S10e  
(Y=Yes, N=No)

**APPLICATION CHART**

This form is divided into the following parts

A – CONFIGURATION AND DIMENSIONAL LIMITS

B – UNLADEN (TARE) MASS

C – IMPOSED LIVESTOCK LOADING

D – REGISTRATION OF DETAILS AND DECLARATIONS

Complete all applicable parts

**NOTES ON PARTS B, C, AND D**

- Declarations are required in PART D by the Approved Person who compiled the form and by the vehicle owner.
- In these calculations, measurements shall be stated to the following orders of accuracy:
  - Mass to the nearest kilogram,
  - Length to the nearest 5 mm, and
  - Volume to the nearest litre.
- “Front axle line” means the centreline of the front axle group.

## Part A – Configuration and Dimensional Limits

<b>Vehicle Owner's Details</b>														
<b>Name</b>														
<b>Company / Business</b>														
<b>Address</b>														
<b>Vehicle Details</b>														
<b>Make</b>					<b>Model</b>					<b>Date of Manufacture</b>				
<b>Body Type</b>								<b>Body Colour</b>						
<b>VIN</b>														
<b>Chassis Number (if applicable)</b>														
<b>Vehicle Dimensions</b>														
<b>Overall Vehicle Length</b>							<b>Rear Overhang</b>							
<b>Drawbar Length</b>														
<b>Axle Group Specifications</b>														
<b>Make</b>					<b>Model</b>					<b>Capacity</b>				
<b>King Pin Specifications</b>														
<b>Make</b>					<b>Model</b>					<b>D Value</b>				
<b>Fifth Wheel Specifications</b>														
<b>Make</b>					<b>Model</b>					<b>D Value</b>				
<b>Turntable Specifications</b>														
<b>Make</b>					<b>Model</b>					<b>D Value</b>				
<b>Towing Eye Specifications</b>														
<b>Make</b>					<b>Model</b>					<b>D Value</b>				

**Manufacturer's Mass Ratings (From Identification plate or manufacturer's advice)**

ATM

<b>1</b>	<b>Suitability for Livestock Loading</b>		
<b>1.1</b>	Length – is the overall length of vehicle including fittings but excluding drawbar less than or equal to 12.5m?	<b>Y</b>	<b>N</b>
<b>1.2</b>	Drawbar Length – is the distance from the centre of the drawbar coupling to Front Axle Line less than or equal to 5.0m?	<b>Y</b>	<b>N</b>
<b>1.3</b>	Width- is the overall width of the vehicle excluding signalling devices less than or equal to 2.5m?	<b>Y</b>	<b>N</b>
<b>1.4</b>	Height – is the overall height less than or equal to: <ul style="list-style-type: none"> <li>• 4.3m single deck crate or</li> <li>• 4.6m multiple deck crate</li> </ul>	<b>Y</b>	<b>N</b>
<b>1.5</b>	Dolly Axle Group – is the trailer fitted with a tandem axle group?	<b>Y</b>	<b>N</b>
<b>1.6</b>	Dolly Axle Group - Are all axles fitted with dual tyres?	<b>Y</b>	<b>N</b>
<b>1.7</b>	Fifth Wheel – is the rating of the fifth wheel and/or turntable greater than or equal to 190Kn?	<b>Y</b>	<b>N</b>
<b>1.8</b>	Turntable – is the rating for the turntable greater than or equal to 190Kn?	<b>Y</b>	<b>N</b>
<b>1.9</b>	Towing Eye – is the rating for the drawbar towing eye greater than or equal to 21.4 tonnes?	<b>Y</b>	<b>N</b>

Note: If the answer is NO to any of the above limits the vehicle is not suitable for Concessional livestock loading. **DO NOT PROCEED WITH RATING**

## Part B – Unladen Mass

### 1. Tare mass

For rating purposes, the tare mass of the vehicle is its actual mass with all permanent equipment fitted, and all fuel and water tanks empty.

The vehicle must be weighed at a registered public weighbridge to determine the actual loads on the front axle and rear axle groups.

**PIN WEIGHBRIDGE TICKET HERE**

**VEHICLE MANUFACTURERS SPECIFICATIONS TO BE ATTACHED**

Details to include make, model, year of manufacture, front and rear axle manufacturers and specifications.

**WRITE AXLE LOADS IN BOXES BELOW FROM WEIGHBRIDGE TICKET**

**Dolly Axle Tare Mass (Dt) = ..... kg**

## 2. Ancillary Equipment

Draw a plan of the chassis layout showing position of fuel/water tanks, tyre racks, spare tyres etc. and the distance from the rear axle line to centre of each tank.

## 3. Fuel/Water Loading

Calculate the mass of fuel/water in each tank by multiplying the volume of each tank by 0.85kg/l for diesel, 0.78kg/l for petrol and 1.0kg/l for water.

(i) Tank	(ii) Contents (Diesel) (Petrol) (Water)	(iii) Volume (l)	(iv) (iii) x 0.85kg/l for diesel (iii) x 0.78kg/l for petrol (iii) x 1.0kg/l for water
1			
2			
3			
Total Fuel/ Water mass (kg) = TFWM (Sum iv) =			

For the purposes of determining unladen mass of the vehicle, the mass of two thirds of the fuel tank and water tank capacities is included.

Additional dolly axle load due to fuel/water is given by:

$$D_{fw} = 0.66PFWF = \dots\dots\dots\text{kg}$$

Additional rear axle load due to fuel/water is given by:

$$R_{fw} = 0.66 \times TFWM - D_{fw} = \dots\dots\dots\text{kg}$$

**ADD THE TARE MASS TO THE FUEL MASS TO OBTAIN TOTAL UNLADEN MASS**

$D_t$  plus  $D_{fw}$

$$= \dots\dots\dots + \dots\dots\dots$$

**TOTAL UNLADEN  
MASS**

$$= \dots\dots\dots \text{Kg}$$

## Part C – Imposed Livestock Loading

Imposed Livestock Loading due to semi-trailer is taken to be the maximum allowable semi trailer kingpin of 15 tonnes applied through the centre line of the fifth wheel.

$D_{li} = 15$  tonnes

Complete the following:

### DOLLY AXLE GROUP

UNLADEN MASS  $D_{un}$  .....

LIVESTOCK  $D_{li} = 15$  tonnes

(A) GROSS LADEN MASS (kg)

DOLLY AXLE GROUP  $D_{un} + F_{li} =$  .....

(B) MANUFACTURER'S LOAD LIMITS

DOLLY AXLE GROUP .....

AGGREGATE TRAILER MASS (ATM) .....

(C) DOLLY AXLE GROUP TYRE CAPACITY .....

TYRE DESIGNATION .....x.....

PLY TYPE/RATING Radial/.....  
(Bias)

MAXIMUM LOAD PER TYRE .....

TOTAL TYRE CAPACITY (FRONT AXLE GROUP) .....

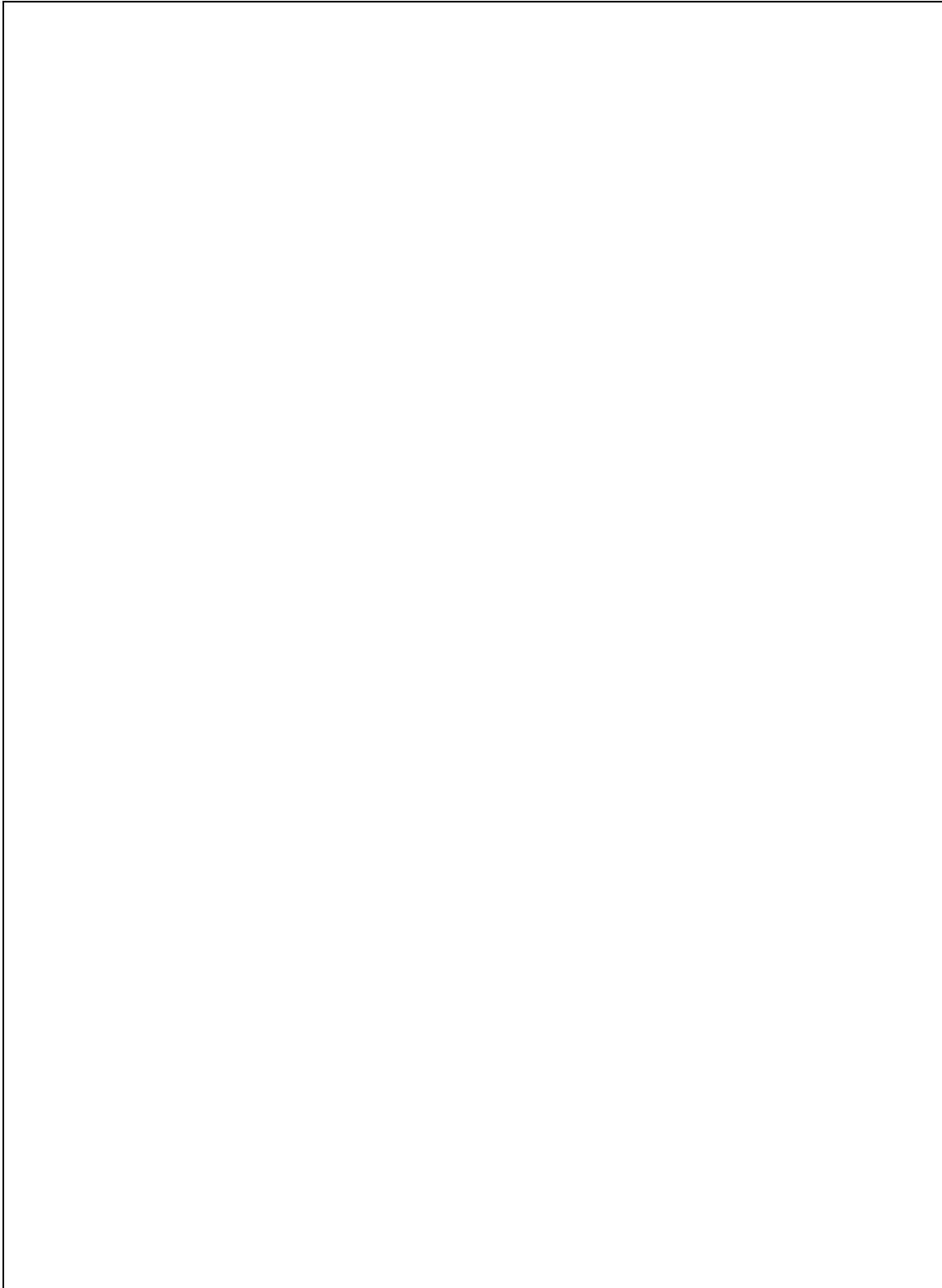
Are the GROSS LADEN MASSES (A) less than or equal to the above limits (B, C and D)?

YES/NO

If the answer is NO the vehicle is not suitable for livestock loading scheme rating.

**DO NOT PROCEED WITH RATING.**

**This page has been left blank for any additional calculations**





## Part D – Vehicle Details and Declarations

DECLARATION BY COMPLIER*			
<b>Authorised Officer</b>			
<b>MA Number</b>			
<b>I am the authorised officer who completed the calculations of laden mass and declare that the information in this form is true and correct.</b>			
<b>Signature</b>		<b>Date</b>	
<b>Company/Business</b>		<b>Telephone</b>	

DECLARATION BY VEHICLE OWNER*			
<b>Vehicle Owner</b>			
<b>Owner's Address</b>			
<b>Name of Authorised Officer</b>			
<b>As the owner of the vehicle described in this form, I declare that the calculations have been completed by the authorised officer mentioned above.</b>			
<b>Signature</b>		<b>Date</b>	
<b>Company/Business</b>		<b>Telephone</b>	

<b>The vehicle described in this form has been assessed for component load compliance for livestock loading</b>			
<b>Authorised officer who examined and approved vehicle</b>			
<b>Name</b>			
<b>Company / Business</b>			
<b>MA Number</b>			
<b>Signature</b>		<b>Date</b>	

# Bus Life Vehicle Rating

## CODE S13

### 1. Scope

This section outlines the minimum standard required for the inspection and issue of a life extension for a heavy bus.

As an alternative to the replacement of an aging bus, owners may wish to consider refurbishing it. Three options are available. However, each will require a commercial decision by the owner to determine if the bus should be replaced, or to upgrade, refurbish and extend its life.

The definition of a heavy bus is a passenger vehicle with a GVM exceeding 5t and having more than 9 seating positions, including the driver.

### 2. General requirements

- The guidelines contained in this code apply to all heavy buses used for public passenger services. These guidelines, referred to in Section 25(2) of the *Transport Operations (Passenger Transport) Standard 2010*, are also contained in Department of Transport and Main Roads information bulletins.
- This code and the information bulletins outline the requirements for either refurbishing a heavy bus to meet the Age Zero requirements, or for carrying out a partial refurbishment to achieve a five year extension to the 15 or 25 year maximum age standards.
- Five Year Life Extension for Open Classification Buses (Age 10)- Requires refurbishment of the bus, including engineer's certification of the structural integrity and serviceability of chassis, body, suspension, steering and brake components and certification that it complies at the time of approval with all Australian Design Rules (ADRs) applicable five years after the bus was first registered. A five year life extension can only be performed once in the life of any bus.
- Five Year Life Extension for Regional Classification Buses (Age 20)- Requires refurbishment of the bus, including the engineer's certification of the structural integrity and serviceability of chassis, body, suspension, steering and brake components and certification that it complies at the time of approval with all ADRs applicable five years after it was first registered. A five year life extension can only be performed once in the life of any bus.
- Age Zero- Requires a new body and the complete refurbishment of the bus including an engineer's certification of structural integrity and serviceability of chassis, body, suspension, steering and brake components and certification that it complies, when completed, with all ADR's applicable to a new bus at that time.
- ADR certification must be performed by a registered professional engineer.
- The inspection and refurbishment of mechanical and structural components must be supervised by a registered professional engineer who is required to provide certification that all critical mechanical and structural components have been visually inspected and crack tested where necessary.
- Vehicle systems and components, which have been recently refurbished or replaced, will not be required to be dismantled or refurbished provided documentary evidence or proof of replacement

or refurbishment is made available to the certifying engineer.

- All modifications completed as part of the refurbishment process, or those which have been done in the past, must be in accordance with the standards prescribed in VSB 6, and must be certified by an Approved Person.
- Each bus, prior to reintroduction into service, must undergo a full evaluation and rating by an Approved Person under the requirements of the Commercial Motor Vehicle Code of Practice codes S4 or S5, and S6 to validate the passenger carrying capacity and compliance with Queensland Transport safety standards.
- For the purposes of this code, bus age is calculated from the date of first registration. If this information is not available, the date of manufacture of the original body is to be used.
- On completion of the refurbishment to the required standard, a modification plate must be attached to the plate in a position adjacent to the original manufacturer's plate or compliance plate. The plate must be marked as follows:
  - Five Year Extension- S13/5/ \* / \*\*\*\* (where \*=month and \*\*\*\*=year of withdrawal from service) ie. An extension of 5 years in November 2001 for a November 1976 vehicle would be displayed as S135/11/2006).
  - Age Zero- S13/0/\*/\*\* (where \*=month and \*\*=year of withdrawal from service) ie. An age zero extension in November 2001 would be displayed as S13/0/11/2026).

### 3. Specific requirements – Five year life extension

- A heavy bus may have its service life extended an extra five years subject to the vehicle undergoing a basic refurbishment, ADR upgrade and certification by the Approved Person, in a number of key areas.
- It should be noted that this five year life extension is not considered a complete refurbishment. The bus will retain its original year of manufacture for the purposes of registration.
- For practical implementation of the five year life extension, once an Open Classification bus reaches 13 years of age, but before it reaches 15 years of age, this life extension can be applied for. Similarly, this life extension can be applied for once a Regional or Local Classification bus reaches 23 years of age but before it reaches 25 years of age.
- Once granted, an Open Classification bus will have its service life in Open Classification use extended to 20 years. After this time, it may be used in either Regional or Local Classifications for a further 10 years. A Regional or Local Classification bus will have its service life in Regional or Local Classification use, as applicable, extended to 30 years.

#### 3.1 Conditions of refurbishment

##### 3.1.1 ADRs

The bus must be upgraded to comply with the ADRs applicable five years after the bus was first registered.

The only ADRs which are exempted from this requirement are those related to control of exhaust emissions. Therefore, an engine does not require upgrading to a later exhaust emissions ADR.

Owners should carefully consider the potential cost of ADR upgrading before committing to a bus life extension, particularly with regard to ADRs for roll over strength and seat belts as they become applicable. No exemptions will be given from safety related ADRs.

**Note:** While upgrading to later ADRs for exhaust emissions (eg ADR 30 Diesel Engine Smoke Emissions) is not required, the vehicle must continue to comply with in-service regulations. Therefore, the engine must continue to comply with the ADR for exhaust emissions it was originally built to and must not emit smoke for 10 seconds or more. Refer to *Transport Operations (Road Use Management—Vehicle Standards and Safety) Regulation 2010*.

### 3.1.2 Body

- The body must be in good structural condition.
- If the body shows signs of structural damage, or rusting of the frame (eg: rust stains, loose rivets, loose or rusted panels), or if the bus has not passed a frame inspection within the previous five years, a full panel removal and frame inspection is required. See information bulletin titled “Guidelines for the structural inspection and repair of buses” for the requirements for a frame inspection.
- All interior trim material must be free from damage and in good serviceable condition.
- All side facing seats must be removed and replaced with forward or rearward facing seats on buses in the Regional Classification. Open Classification buses must have forward or rearward facing, coach style, high back seats.
- Exposed handrails, seats and partitions must be padded where specified in information bulletin titled “Guidelines for safety padding for bus handrails, seats and partitions”.
- All interior or damaged floor coverings must be replaced with approved non-slip style material.
- Windows and window seating must be in good condition.
- Paintwork must be in good condition.

### 3.1.3 Chassis and Suspension

All components to be cleaned, inspected and crack tested where necessary, to ensure they are rust free, structurally sound and within service wear limits.

### 3.1.4 Steering

- Power steering components must be free of leaks. Cracked or oil affected hydraulic hoses must be replaced.
- Stub axles and all steering arms (including pitman arms and drag links) are to be crack tested. Defective components must be replaced. No repairs using heating or welding processes are considered acceptable.

### 3.1.5 Brakes

- Complete overhaul and refurbishment of the braking system must be carried out.
- Replacement of flexible air or hydraulic lines, valve seals, diaphragms etc is required. All components must comply with acceptable national or SAE standards.
- Physical testing of vehicle braking performance to meet the *Transport Operations (Road Use Management—Vehicle Standards and Safety) Regulation 2010* performance requirements for both service and parking brakes is required. (Minimum service brake efficiency 50%, parking brake to hold on a 12% gradient).

### 3.1.6 Electrical

- All electrical fittings, lights, reflectors, lenses and wiring must be in serviceable condition.
- Light and reflector lenses must be free from cracks and have serviceable and reflective surfaces. Discoloured or cracked lenses must be replaced.
- All electrical wiring and electrical conduit must be secure, shielded from the effects of excessive heat, and in serviceable condition.
- Voltage under load with the engine running at each lamp must not be more than 10% below nominal voltage. Eg. 10.8 volts for a 12 volt system.

### 3.1.7 Engine and Driveline

- All components will require visual and physical inspection and may require dismantling, if necessary, to ensure reliability and mechanical integrity.
- The engine must have adequate power output.
- All components must be free of oil, water, air and vacuum leaks.
- The vehicle shall be free of exhaust leakage, excessive noise and smoke emission (Vehicle should be operated under load and not emit visible smoke continuously for more than 10 seconds).
- Transmission and driveline components must be secure. All components must be free of oil leaks, excessive wear or backlash in the drive line.
- Rubber mounts and dampers are to be free of oil impregnation, cracking and deterioration.
- All axle hub assemblies must be removed, dismantled and inspected. All hub oil seals and gaskets must be replaced. Replace wheel bearings where necessary.

## 4. Specific requirements – Age zero refurbishment

A service bus may have its service life returned to age zero subject to the vehicle undergoing a complete refurbishment, ADR upgrade and certification by the Approved Person, in a number of key areas.

Age Zero refurbishment is the complete refurbishment of the rolling chassis, the fitting of a new body and the upgrading of the bus to meet the safety and emission standards applicable to a new heavy bus at the time of refurbishment.

Buses which are completely refurbished in accordance with the following conditions will be considered by Queensland Transport to qualify as Age Zero, for the purposes of the *Transport Operations (Passenger Transport) Standard 2010*.

It should be noted that these buses will retain their original year of manufacture for the purpose of registration.

## **4.1 Conditions of refurbishment**

### **4.1.1 ADRs**

The refurbished bus must comply with all ADRs applicable at the date of completion of remanufacture. Buses intended for Open or Regional Classifications must comply with all ADR's applicable to Non Route Service Buses.

### **4.1.2 Body**

A completely new body (including all interior and exterior fittings and equipment) is required.

### **4.1.3 Chassis and Suspension**

Structural components (chassis, spring hangers etc.) must be dismantled, visually inspected and crack tested if necessary. All components must then be replaced or refurbished as necessary.

### **4.1.4 Mechanical**

All mechanical components (engine, gearbox, steering, suspension and axles etc.) must be rebuilt, including the replacement of all seals, gaskets, bearings and wearing components.

### **4.1.5 Brakes**

The complete braking system must be fully rebuilt including replacement or refurbishment of all wearing components, Replacement of all flexible air or hydraulic lines, valve seals, diaphragms, springs etc. All components must comply with the appropriate national or SAE standards.

**Checklist s13a**  
**Bus Life Vehicle Rating -**  
**5 Year Life Extension**  
**CODE S13**

Form No: S13a  
(Y=Yes, N=No)

<b>1</b>	<b>ADRs</b>		
1.1	Has the bus been upgraded to comply with all ADRs applicable (except exhaust emissions) five years after it was first registered (or manufactured if registration details are not available)?	Y	N
<b>2</b>	<b>Body</b>		
2.1	Is the body in good structural condition?	Y	N
2.2	Is the body free of structural damage, rusting, loose rivets, rusted panels etc?	Y	N
2.3	Has the bus passed a full frame inspection within the previous five years (a copy of the Department of Transport and Main Roads frame inspection certificate must be sighted) or has a full frame inspection been carried out?	Y	N
2.4	Is all interior trim free from damage and in good serviceable condition?	Y	N
2.5	Are all floor coverings approved non-slip type material and in good condition?	Y	N
2.6	Are all window seals and windows in good condition?	Y	N
2.7	Is all paintwork in good condition	Y	N
2.8	Are all applicable areas padded as required in information bulletin "Guidelines for safety padding for bus handrails, seats and partitions"?	Y	N
2.9	If the bus is to be operated under Regional Classification, are all seats forward or rear facing, coach style, high back seats?	Y	N
2.10	If the bus is to be operated in Open Classification, are all seats forward or rear facing, coach style, high back seats?	Y	N

<b>3</b>	<b>Chassis and Suspension</b>		
3.1	Have all components been cleaned, inspected and crack tested, if necessary, to ensure they are rust free, structurally sound and within serviceable wear limits?	Y	N
<b>4</b>	<b>Steering</b>		
4.1	Are all power steering components free from leaks, and have all oil affected hoses been replaced?	Y	N
4.2	Have all stub axles, steering arms, pitman arms and drag links been crack tested? <i>Note: All defective components must be replaced. Repairs using heat or welding processes are NOT acceptable.</i>	Y	N
<b>5</b>	<b>Brakes</b>		
5.1	Has the complete braking system been fully overhauled and refurbished?	Y	N
5.2	Have all flexible air or hydraulic lines, valve seals, diaphragms, wheel cylinder seals etc been replaced? <i>Note: All components must comply with acceptable national or SAE standards.</i>	Y	N
5.3	Has the service brake been tested to show an efficiency not less than 50%?	Y	N
5.4	Has the parking brake been tested to hold the vehicle on a gradient of at least 12%?	Y	N
<b>6</b>	<b>Electrical</b>		
6.1	Are all electrical fittings, lights, reflectors, lenses and wiring in a serviceable condition?	Y	N
6.2	Are all lenses free from cracks and have serviceable reflective surfaces?	Y	N
6.3	Is all electrical wiring secure, shielded from the effects of excessive heat, and in a serviceable condition?	Y	N
6.4	Is the voltage under load at each lamp not more than 10% below nominal system voltage?	Y	N
<b>7</b>	<b>Engine and Driveline</b>		
7.1	Have all components been physically inspected and dismantled, where necessary, to ensure mechanical integrity and reliability?	Y	N
7.2	Does the engine have adequate power output?	Y	N
7.3	Is the vehicle free from oil, water, air and vacuum leaks?	Y	N
7.4	Is the vehicle free from exhaust leakage, excessive noise and smoke emission? <i>Note: Vehicle should be operated under load and not emit smoke continuously for 10 seconds or more.</i>	Y	N
7.5	Is the transmission and driveline secure, free of leaks, excessive wear and backlash?	Y	N



- 7.6 Are all rubber mounts and dampers free of oil impregnation and cracking? **Y N**
- 7.7 Have all hub and axle assemblies been dismantled, cleaned and have all seals and defective bearings been replaced? **Y N**
- 8 General**
- 8.1 Has the vehicle undergone a full evaluation and rating under the requirements of the Commercial Motor Vehicle Code of Practice modification codes S4 or S5, and S6 to validate the passenger carrying capacity and compliance with Queensland Transport Safety Requirements? **Y N**

**Note:** If the answer to any question is **N (No)**, the five year life extension will not be granted

CERTIFICATION DETAILS															
Make						Model						Year of Manufacture			
Registration No								Month and Year of 1 <sup>st</sup> Reg							
VIN															
Chassis Number (If applicable)															
Engine Number								GVM							
Passenger Capacity - Seated							Passenger Capacity - Standing								
Owner's Name															
Owner's Address															
Vehicle Certified By															
Company / Business Name															
Company / Business Address															
Life extension current up to and including															
Signatory's Signature												Date			

**Checklist s13b**  
**Bus Life Vehicle Rating -**  
**Age Zero Refurbishment**  
**CODE S13**

Form No: S13b  
(Y=Yes, N=No)

<b>1</b>	<b>ADRs</b>		
1.1	Does the refurbished bus comply with all ADRs applicable at the date of completion of remanufacture?	<b>Y</b>	<b>N</b>
1.2	Has the vehicle been upgraded to meet the safety and emission standards applicable to a heavy bus at the date of completion of remanufacture?	<b>Y</b>	<b>N</b>
1.3	If the bus is intended for Open or Regional Classification, does it comply with all ADRs applicable to Non Route Service Buses?	<b>Y</b>	<b>N</b>
<b>2</b>	<b>Body</b>		
2.1	Has a new body been fitted (including all interior and exterior fittings and equipment)?	<b>Y</b>	<b>N</b>
<b>3</b>	<b>Chassis</b>		
3.1	Has a complete refurbishment of the rolling chassis been carried out?	<b>Y</b>	<b>N</b>
3.2	Have all structural components (chassis, spring hangers etc.) been dismantled, visually inspected, crack tested, replaced or refurbished as necessary?	<b>Y</b>	<b>N</b>
<b>4</b>	<b>Mechanical</b>		
4.1	Have all mechanical components (engine, gearbox, steering, suspension and axles etc.) been rebuilt, including the replacement of all seats, gaskets, bearings and wearing components?	<b>Y</b>	<b>N</b>
<b>5</b>	<b>Brakes</b>		
5.1	Has the complete braking system been fully rebuilt including replacement or refurbishment of all wearing components, replacement of all flexible or hydraulic lines, valve seals, diaphragms, springs etc?	<b>Y</b>	<b>N</b>
<b>6</b>	<b>General</b>		
6.1	Has the vehicle undergone a full evaluation and rating under the requirements of the Commercial Motor Vehicle Code of Practice modification codes S4 or S5, and S6 to validate the passenger carrying capacity and compliance with Queensland Transport safety requirements?	<b>Y</b>	<b>N</b>

**Note:** If the answer to any question is **N (No)**, the five year life extension will not be granted

CERTIFICATION DETAILS																
<b>Make</b>						<b>Model</b>						<b>Year of Manufacture</b>				
<b>Registration No</b>								<b>Month and Year of 1<sup>st</sup> Reg</b>								
<b>VIN</b>																
<b>Chassis Number (If applicable)</b>																
<b>Engine Number</b>								<b>GVM</b>								
<b>Passenger Capacity - Seated</b>								<b>Passenger Capacity - Standing</b>								
<b>Owner's Name</b>																
<b>Owner's Address</b>																
<b>Vehicle Certified By</b>																
<b>Company / Business Name</b>																
<b>Company / Business Address</b>																
<b>Life extension current up to and including</b>																
<b>Signatory's Signature</b>										<b>Date</b>						

