



Legal Requirements and certificates

1.1 General

All countries and regions have legal requirements which must be followed in order for the bus to be registered. Within the EU, for example, certificates are used as verification that the vehicle complies with one or more legal requirements. These certificates are produced by the vehicle manufacturer.

Within the EU, there are two systems for type approval:

- European whole vehicle type approval WVTA – Whole Vehicle Type Approval,
- National vehicle approval. Inom EU finns 2 system för typgodkännande:

European whole vehicle type approval – WVTA

For WVTA, Scania, through the document COC – Certificate of Conformity, guarantees that the bus chassis fulfils all certificates applicable for this part of the vehicle.

The CoC must be ordered with WVTA incomplete. It is then the responsibility of the bus bodybuilder, through their certifying authority, to produce an additional WVTA certificate – WVTA complete. The vehicle is then registered with the CoC for incomplete vehicle from Scania together with the CoC for completed vehicle from the bus bodybuilder.

National vehicle approval

For national vehicle approval, the Scania distributor for each country provides the bus bodybuilder with the chassis-specific certificates. It is then the responsibility of the bus bodybuilder to produce all of the certificates related to the body. The bus is then registered using all of the certificates for the chassis and the body.

On the chassis, there are several different systems designed to fulfil the directives of the EU or the UNECE.

Scania's and the bus bodybuilder's responsibility

Scania guarantees COP – Conformity of Production, i.e. that the chassis supplied to the bus bodybuilder conforms to the chassis that was tested by the authority. This means that the bus bodybuilder is not allowed to influence or change the certified system.

The bus bodybuilder is involved in the production process in terms of noise and sound insulation. For more information, see Chapter 4.3 External noise and 4.4 Internal noise.

Contact your local Scania Distributor for information on which certificates that Scania can provide.



1.2 European whole vehicle type approval

Directive for type approval of whole vehicles

General

Type approval according to the Frame directive 2007/46 EG which will be replaced by Directive (EU) 2018/858, applies in Europe. The Directive (EU) 2018/858 entered into force on the 1st of September 2020 and is valid for new vehicle types. The Framework directive includes buses and systems, components and individual technical units intended for buses. It also contains demands on information regarding repair and maintenance (RMI) and rules for product surveillance. For more information see <https://ec.europa.eu/growth/sectors/automotive/legislation/>

The type approval means that all requirements are fulfilled in accordance with the special legal instruments. Scania or the bus bodybuilder must prove and assume the responsibility that the complete vehicle fulfils all requirements. Certificates or test reports may be used to prove that the vehicle fulfils the requirements

The Frame directive means that the process for type approval in the EU is now coordinated for EU member states, whereas it was previously a national matter. The framework directive is mandatory in all EU member states, but can also be implemented in other markets such as Norway and Switzerland. The principle is that all individual vehicles that are manufactured conform to the individual vehicle used for certification.

The manufacturer certifies a vehicle type according to framework directive 2007/46 or after 1st of September according to Directive 2018/858. All sub certificates must be produced in order for a certificate for a vehicle type to be issued. The bus bodybuilder is responsible for certification. Provided that the bus bodybuilder followed the instructions in the BBM, Scania's incomplete certificate can be used for registration. Scania's incomplete certificate must always be supplemented with a bus bodybuilder's certificate.

For more information, see the Certificates section available in Busbodybuilder portal /Type Approval.



1.2 European whole vehicle type approval

CoC – Certificate of Conformity

A vehicle that is built in accordance with 2007/46 or 2018/858 receives a CoC, Certificate of Conformity. It enables the vehicle to be registered in an EU member state.

The CoC document ensures that the vehicle fulfils the European framework for whole vehicle approval. The CoC document also contains information about the vehicle that each country's vehicle register requires in order to register the vehicle. The CoC document is intended to simplify the registration process and provide shorter lead times in the process from sale to delivery.

The tables below provide a summary of EU's whole vehicle type approval procedures.

Type approval in one step

COC – Certificate of Conformity	Step	Type approval status
COC for complete vehicle	Ready built bus in one step	Complete vehicle

Type Approval in several steps

COC – Certificate of Conformity	Step	Type approval status
COC for incomplete vehicle	First step: Bus chassis from Scania	Incomplete vehicle
COC for completed vehicle	Next step: Ready built bus by Scania, ex. Citywide	Completed vehicle



1.2 European whole vehicle type approval

General

This section describes the procedure for framework directive 2007/46/EC samt 2018/858, whole vehicle type approval.

A vehicle can be ordered from Scania as either a completed vehicle, e.g. Scania Citywide, or an incomplete vehicle. An incomplete vehicle is a bus chassis.

Incomplete vehicle

A bus chassis can be ordered as an incomplete vehicle from Scania. A CoC for incomplete vehicle is then issued for the chassis. Your Scania distributor can provide the document CoC for incomplete vehicle. The document can then be used for registration when certifying the vehicle as a completed vehicle. (i.e. vehicle completed in stages) A third-party supplier is responsible for arranging an individual approval or national type approval for small series. This applies in cases where the third-party supplier does not have its own type approval or CoC for its part of the vehicle. For more information about individual approval and national type approval for small series, see later in this chapter.



1.2 European whole vehicle type approval

Sub-certificates for whole vehicles

The table shows which sub-certificates the manufacturer may need to produce for certification of a vehicle type in accordance with framework directive 2007/46 or 2018/858 for whole vehicles.

Sequence numbers	Regulation (EU or UNECE)	Description	Chassis certification	Body certificate
1	UNECE R51	Sound level		X
3A	UNECE R34	Fuel tank	X	X ^a
3B	UNECE R58	Rear underrun protection		X
4A	EU 1003/2010	Rear area for registration plate		X
5A	UNECE R79	Steering control equipment	X	
7A	UNECE R28	Horn		X
8A	UNECE R46	Rear view mirrors		X
9A	UNECE R13	Brakes	X	
10A	UNECE R10	Electromagnetic compatibility	X	X
13A	UNECE R18	Protection against theft	X	
15A	UNECE R17	Seats and their anchorages		X

a. Does not apply to fuel tanks delivered by Scania.



1.2 European whole vehicle type approval

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Sequence number	Regulation (EU or UNECE)	Description	Chassis certification	Body certificate
17A	EU 130/2012	Vehicle access and manoeuvrability	X	X
17B	UNECE R39	Speedometer	X	
18A	EU 19/2011	Type plate and VIN code	X	
20A	UNECE R48	Installation of lighting		X
27A	EU 1005/2010	Towing unit	X	X ^a
33A	UNECE R121	Symbols	X	X
36A	UNECE R122	Heating system		X
41A	EU 595/2009	Engine emissions	X	
	UNECE R85	Engine power(electric engine)	X	

a) does not apply to towing units fitted by Scania



Continuation of table from previous page.

Sequence number	Regulation (EU or UNECE)	Description	Chassis certification	Body certificate
45A	UNECE R43	Safety glazing		X
46A	EU 458/2011	Tyre installation	X	
47A	UNECE R89	Speed limitation	X	
48A	EU 1230/2012	Masses and dimensions		X
50A	UNECE R55	Coupling devices	X	X
51A	UNECE R118	Fire resistance		X
52A	UNECE R107	Bus Directive		X
52B	UNECE R66	Strength of Body		X
65	UNECE R131	AEB	X	
66	UNECE R130	LDW	X	
69	UNECE R100	Electrical safety	X	X
70	UNECE R110	Gas installations	X	X

1.3 National vehicle approval - EU

General

National vehicle type approval

There are two different national vehicle type approvals:

- type approval in small series
- individual approval

Type Approval in small series

Type approval in small series, max 250 units per type and year, involves a type approval procedure that is established in national legislation in a member state.

An EU member state can waive one or more of the regulatory measures in a national approval in small series if there are other relevant requirements instead.

A type approval in small series is only valid in the member state in question. Another EU member state can accept the type approval if it has reasonable grounds to believe that the technical provisions under which the vehicle was approved are equivalent to its own provisions.

Individual approval

With individual approval, the EU member state certifies that a particular vehicle, regardless of whether or not it is unique, fulfils the relevant administrative provisions and technical requirements. Each individual vehicle must undergo a physical inspection. A vehicle may be exempted from one or more provisions, regardless of whether the vehicle is unique or not, provided that the EU member state imposes alternative requirements. An individual approval can be based on the CoC document for incomplete vehicles.

An individual approval is only valid within the EU member state which granted the individual approval. Another EU member state may permit the sale of the vehicle, vehicle, the registration of the vehicle or the use of the vehicle. This is on condition that the technical regulations according to which the vehicle was approved correspond to the EU member state's own regulations.



1.4 National vehicle approval outside EU

All countries and regions have legal requirements which must be followed in order for the bus to be registered.

On the chassis there are several different systems designed to fulfil the directives of the EU or the UNECE. Contact the local Scania Distributor in your country to get information on what certificates that Scania can provide. For more information regarding legal requirements see The united Nations Economic Commission for Europe (UNECE): <https://www.unece.org/trans/main/welcwp29.html>, or <https://ec.europa.eu/growth/sectors/automotive/legislation/>

IMPORTANT! For all certificates provided by Scania, no modifications may be made to any of the equipment included in the certificate. The bus bodybuilder must consult the certificate before performing any operation in a certified system.

Scania's and the bodybuilders responsibility

Scania guarantees COP – Conformity of Production, i.e. that the chassis supplied to the bus bodybuilder conforms to the chassis that was tested by the authority. This means that the bus bodybuilder is not allowed to influence or change the certified system.

The bus bodybuilder is involved in the production process in terms of noise and sound insulation. For more information, see Chapter 4.3 External noise and 4.4 Internal noise.



1.4. National vehicle approval outside EU

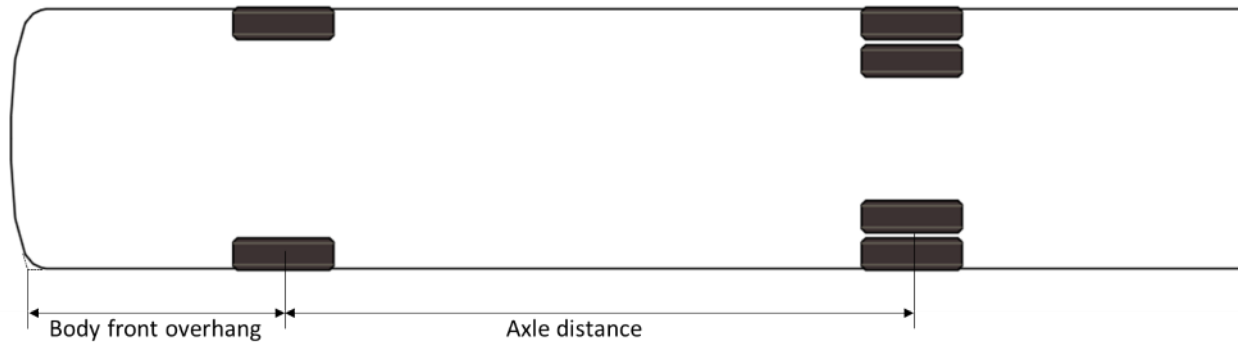
The table shows limitations for fulfilling certification in accordance with UNECE R79. Applies to vehicles with steering wheel \varnothing 450 mm. The certificate applies up to certain axle distances and front overhang.

Note:

For other axle distances than those stated in the table, the bus bodybuilder can define the axle distance provided that the requirements by the authorities in the country of the vehicle's final market are fulfilled.

Bus chassis type

IFS- L 4x2



Chassis type	Front axle	Steering gear ratio	Chassis Front overhang (mm)	Body Front overhang ^a (mm)	Max. axle distance or Max. Wheel base (mm)
IFS-L 4x2	AMI580	17.0-20.0:1	2075	2175	7580
		17.0-20.0:1	2300	2400	7530
		17.0-20.0:1	2500	2600	7486
		17.0-20.0:1	2700	2800	7440

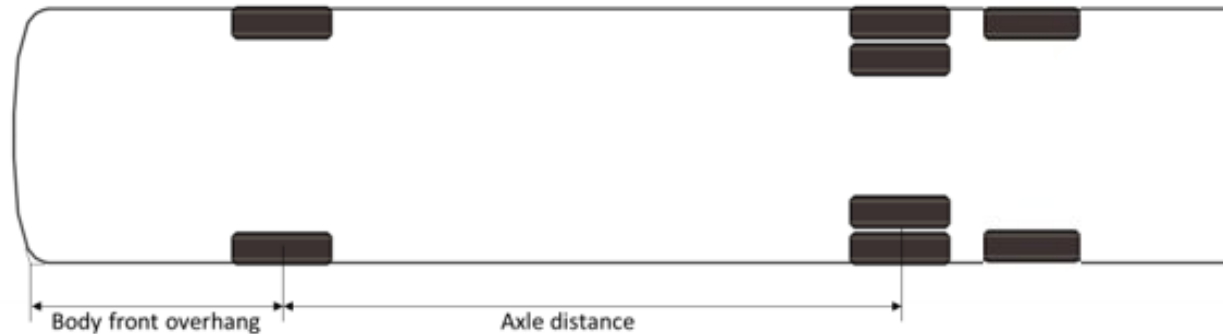
a. measured at the point of the front bumper which runs tangentially with a turning circle with a radius of 20 m

The body front overhang used in the above table is only a reference value to calculate Max. axle distance. For other Body Front overhang values (in mm), the following equation can be used as a guide to calculate the corresponding Max. axle distance value in mm. However, note that this equation is only a rough guide to calculate max. axle distance value and the responsibility solely lies on the body builder to fulfil ECE R79 Regulation.

$$\text{Max. axle distance IFS-L 4x2} = (-0,2236 * \text{Body Front overhang}) + 8066,6$$

NOTE: The axle distance or wheel base values specified in the table correspond to distance from the front axle to the rear axle

Bus chassis type IFS-L 6x2*4



Chassis type	Front axle	Steering gear ratio	Chassis Front overhang (mm)	Body Front overhang ^a (mm)	Max.axle distance or Max. Wheelbase(mm)
IFS-L 6x2*4	AMI580	17.0-20.0:1	2075	2175	7695
		17.0-20.0:1	2300	2400	7645
		17.0-20.0:1	2500	2600	7599
		17.0-20.0:1	2700	2880	7534

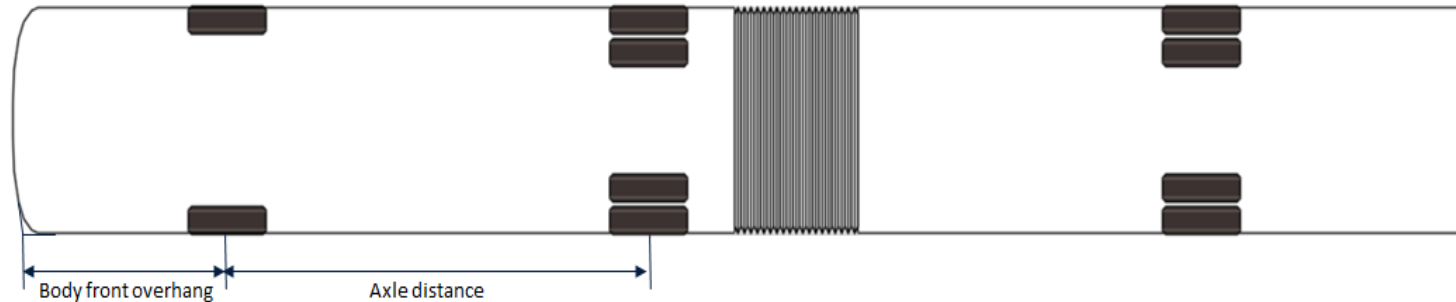
a. measured at the point of the front bumper which runs tangentially with a turning circle with a radius of 20 m

The body front overhang used in the above table is only a reference value to calculate Max. axle distance. For other Body Front overhang values (in mm), the following equation can be used as a guide to calculate the corresponding Max. axle distance value in mm. However, note that this equation is only a rough guide to calculate max. axle distance value and the responsibility solely lies on the body builder to fulfil ECE R79 regulation.

$$\text{Max. axle distance IFS-L 6x2*4} = (-0,2286 * \text{Body Front overhang}) + 8192,9$$

NOTE: The axle distance or wheel base values specified in the table correspond to distance from the front axle to the rear axle

Bus chassis type IFS-L 6x2/2



Chassis type	Front axle	Steering gear ratio	Chassis Front overhang (mm)	Body Front overhang ^a (mm)	Max. axle distance or Max. Wheel base (mm) for 8,2T Front axle load +13T centre axle load	Max. axle distance or Max. Wheel base (mm) for 7,5T Front axle load + 12T centre axle load
IFS-L 6x2/2	AMI580	17.0-20.0:1	2075	2265	6213	6589
		17.0-20.0:1	2300	2490	6178	6549
		17.0-20.0:1	2500	2690	6146	6514
		17.0-20.0:1	2700	2890	6113	6478

a. measured at the point of the front bumper which runs tangentially with a turning circle with a radius of 20 m

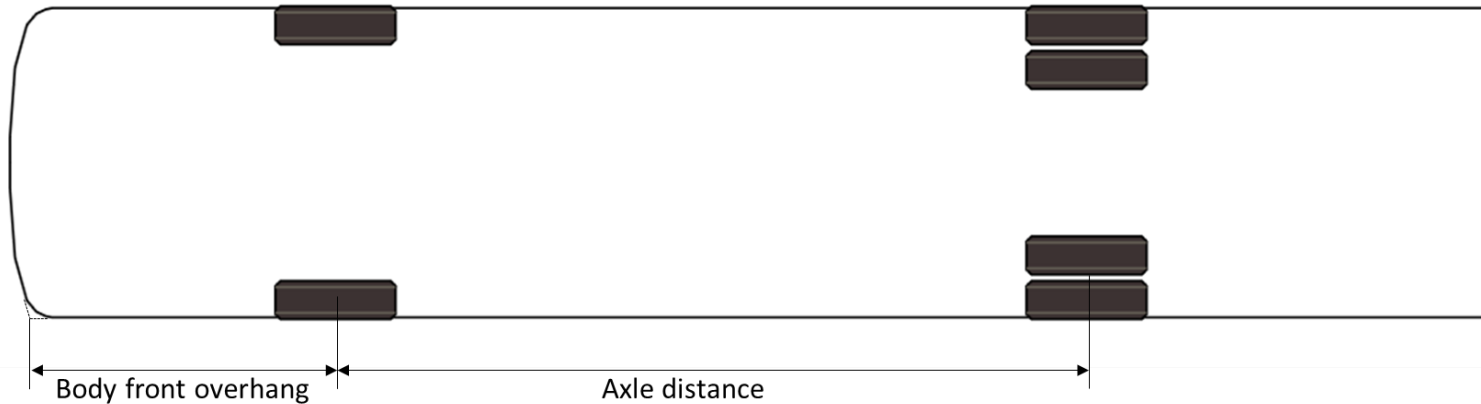
The body front overhang used in the above table is only a reference value to calculate Max. axle distance. For other Body Front overhang values (in mm), the following equation can be used as a guide to calculate the corresponding Max. axle distance value in mm. However, note that this equation is only a rough guide to calculate max. axle distance value and the responsibility solely lies on the body builder to fulfil ECE R79 regulation.

Max. axle distance IFS-L 6x2/2 = (-0,1599*Body Front overhang) + 6575,8 for 8,2T Front axle load +13T centre axle load

Max. axle distance IFS-L 6x2/2 = (-0,1773*Body Front overhang) + 6990,7 for 7,5T Front axle load + 12T centre axle load

NOTE: The axle distance or wheel base values specified in the table correspond to distance from the front axle to the centre axle.

Bus chassis type
RFS-L 4x2



Chassis type	Front axle	Steering gear ratio	Chassis Front overhang (mm)	Body Front overhang ^a (mm)	Max. axle distance or Max. Wheel base (mm)
RFS-L 4x2	AM580	17.0-20.0:1	2075	2255	8025
		17.0-20.0:1	2300	2480	7970
		17.0-20.0:1	2500	2680	7920
		17.0-20.0:1	2700	2880	7870

a. measured at the point of the front bumper which runs tangentially with a turning circle with a radius of 20 m

The body front overhang used in the above table is only a reference value to calculate Max. axle distance. For other Body Front overhang values (in mm), the following equation can be used as a guide to calculate the corresponding Max. axle distance value in mm. However, note that this equation is only a rough guide to calculate max. axle distance value and the responsibility solely lies on the body builder to fulfil ECE R79 regulation

$$\text{Max. axle distance RFS-L 4x2} = (-0,2482 * \text{Body Front overhang}) + 8584,9$$

NOTE: The axle distance or wheel base values specified in the table correspond to distance from the front axle to the rear axle.

Bus chassis type
RFS-L 6x2*4



Chassis type	Front axle	Steering gear ratio	Chassis Front overhang (mm)	Body Front overhang ^a (mm)	Max. axle distance or Max. Wheel base (mm)
RFS-L 6x2*4	AM580	17.0-20.0:1	2075	2125	7955
		17.0-20.0:1	2300	2350	7900
		17.0-20.0:1	2500	2550	7850
		17.0-20.0:1	2700	2750	7800

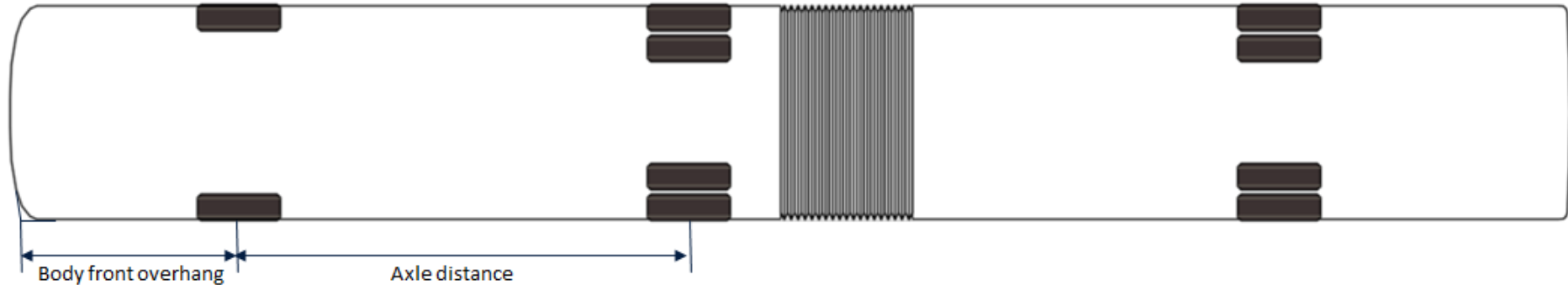
a. measured at the point of the front bumper which runs tangentially with a turning circle with a radius of 20 m

The body front overhang used in the above table is only a reference value to calculate Max. axle distance. For other Body Front overhang values (in mm), the following equation can be used as a guide to calculate the corresponding Max. axle distance value in mm. However, note that this equation is only a rough guide to calculate max. axle distance value and the responsibility solely lies on the body builder to fulfil ECE R79 regulation

$$\text{Max. axle distance RFS-L 6x2*4} = (-0,2482 * \text{Body Front overhang}) + 8482,7$$

NOTE: The axle distance or wheel base values specified in the table correspond to distance from axle 1 to axle 2.

Bus chassis type
RFS-L 6x2/2



Chassis type	Front axle	Steering gear ratio	Chassis Front overhang (mm)	Body Front overhang ^a (mm)	Max. axle distance or Max. Wheel base (mm)
RFS-L 6x2/2	AM580	17.0-20.0:1	2075	2255	6581
		17.0-20.0:1	2300	2480	6535
		17.0-20.0:1	2500	2680	6494
		17.0-20.0:1	2700	2880	6453

a. measured at the point of the front bumper which runs tangentially with a turning circle with a radius of 20 m

The body front overhang used in the above table is only a reference value to calculate Max. axle distance. For other Body Front overhang values (in mm), the following equation can be used as a guide to calculate the corresponding Max. axle distance value in mm. However, note that this equation is only a rough guide to calculate max. axle distance value and the responsibility solely lies on the body builder to fulfil ECE R79 regulation

$$\text{Max. axle distance RFS-L 6x2/2} = [(-0,2482 * \text{Body Front overhang}) + 8584,9] * 0,82$$

NOTE: The axle distance or wheel base values specified in the table correspond to distance from the front axle to the centre axle.