



Calculating Axle Length and Converting to Tip to Tip Measurement

Bawa Trailer Parts

Version 1.0

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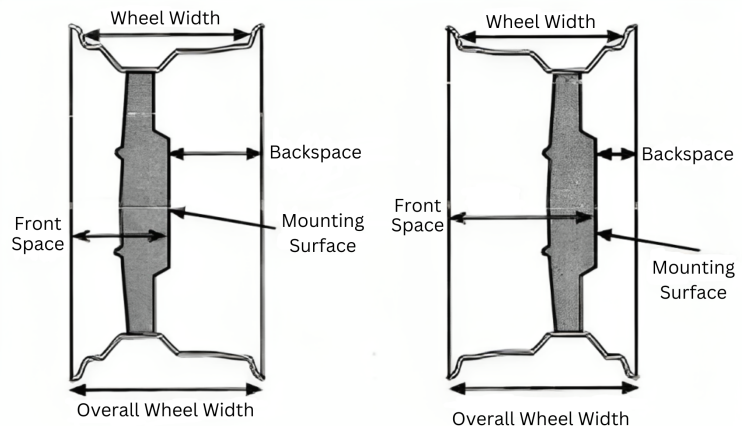
Please note that this document is indicative of how we measure our axles at Bawa Trailer Parts. While we are confident that when buying from us these calculations will give you the measurements you require, we can not guarantee that these measurements will work for all styles of axles. If you have any concerns or questions regarding your calculations, please contact us and we would be happy to help you with any of your enquiries!



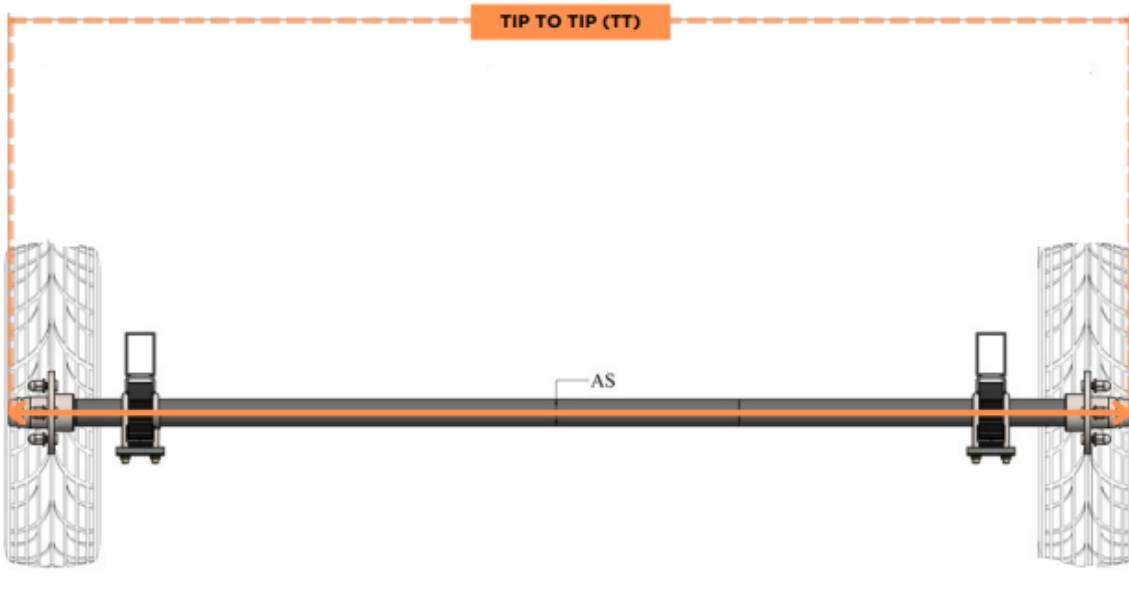
Glossary of terms:

Word	Shorthand	Definition	Also known as:
Chassis Width	CW	Referring to the length of the <i>tray</i> of the trailer	Trailer Width, Frame Size, Width of the Box
Backspace	BS	The measurement from the hub to the back side of the tire, close to the center line	(Sometimes referred to as <i>offset</i> but they are not the same)
Frontspace	FS	The measurement from the hub to the front side of the tire, away from the center line	-
Offset	OS	The distance of the rim plate from the center of the rim	Positive, Negative, Zero
Tip to Tip	-	Measurement from one tip of the axle to the other	Overall Length
Hub Face to Hub Face	HF to HF	Measurement from one face of the hub to the other side	Face to Face

Examples of terms:



Above are examples of terms mentioned above. Image A (reading left to right) indicates the measurement of *backspace*, whereas Image B indicates a few of the terms mentioned above. Please contact us if you have any questions on the above terminology.



TIP TO TIP MEASUREMENT:

Tip to tip measurements are the most straightforward and typically the easiest way to measure your axle. It refers to the measurement from one end of the axle to the other.

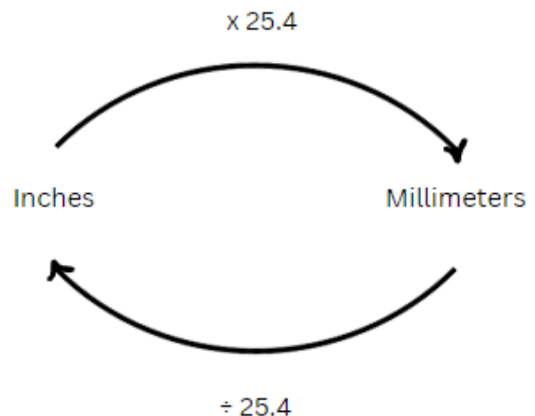
The only equation needed is the measurement required to convert your measurement from millimeters/inches to the other. We can convert to inches, the measurement we use to measure our axles here at Bawa Trailer Parts, by **dividing** the measurement by the conversion factor of 25.4

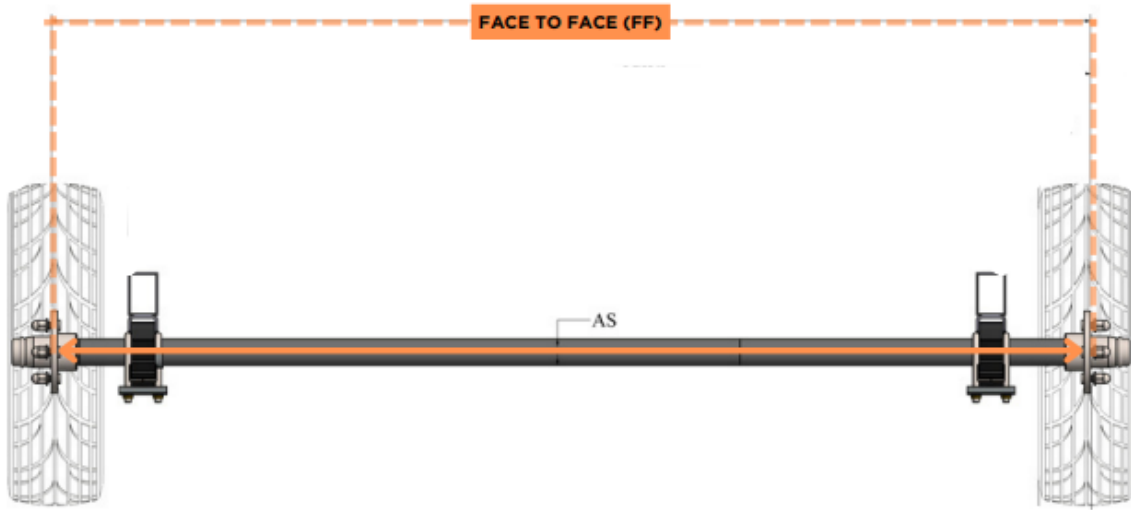
(tip to tip measurement in mm)/(conversion factor) = tip to tip measurement in inches

Example: $(1525\text{mm})/25.4 = 60''$

If we need to convert from inches to millimeters, the opposite applies:

(tip to tip measurement in inches) x (conversion factor) = tip to tip measurement in mm





HUB FACE TO HUB FACE MEASUREMENT:

Hub face to hub face measurements require an extra measurement to get to the tip to tip measurement but are relatively straightforward as well. This measurement refers to the distance between the outside face of one hub to the other.

The equation for this one takes the measurement and adds an additional factor to get us to the desired measurement.

For most axles, *excluding 2T/Dexter axles*, the equation goes as follows:

$$(\text{Hub face to Hub Face measurement}) + 100\text{mm} = (\text{Tip to Tip measurement in mm})$$

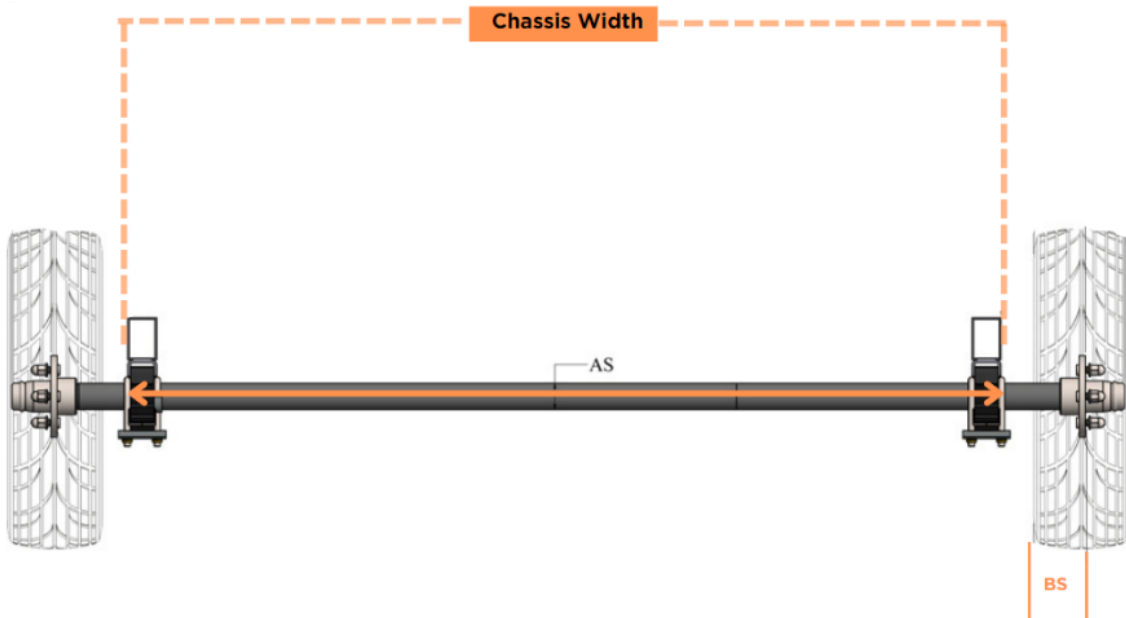
$$\text{Example: } (2200\text{mm}) + 100\text{mm} = 2300\text{mm} / 90.5''$$

For 2T/Dexter Axles, the equation is only slightly different but goes as follows:

$$(\text{Hub face to Hub Face measurement}) + 170\text{mm}^* = (\text{Tip to Tip measurement in mm})$$

$$\text{Example: } (2200\text{mm}) + 170\text{mm} = 2370\text{mm} / 93.3''$$

* Certain 2T axles can be an additional 155mm rather than 170mm due to the different machining of certain axles.



CHASSIS WIDTH MEASUREMENT:

This measurement, also known as tray width, requires a bit of information to achieve but is quite easy once you have all your measurements. The measurements required for this one are the chassis width and the backspace of the rim and tyres used. (If you are using wheels purchased from Bawa Trailer Parts, you can find the backspace information on our website.)

For most axles, *excluding 2T/Dexter axles*, the equation goes as follows:

(Chassis Width) + (Backspace) + (Backspace) + (Clearance)* + 100mm = TT measurement

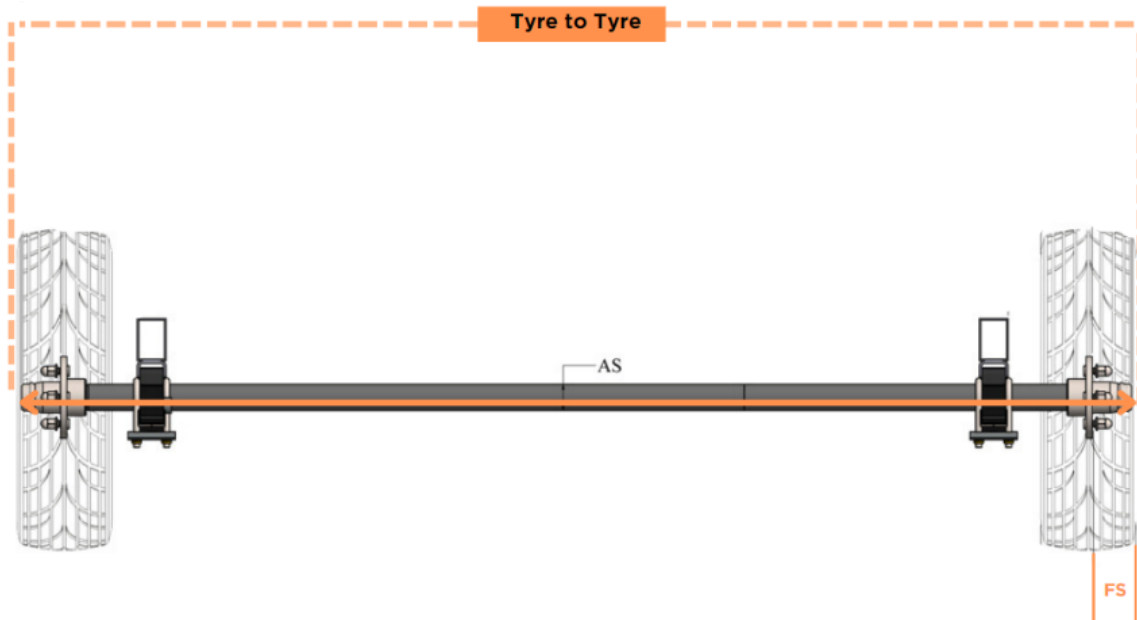
Example: 1630 + 160 + 160 + 100mm + 100mm = 2150mm / (85")

For 2T/Dexter Axles, the equation is only slightly different but goes as follows:

(Chassis Width) + (Backspace) + (Backspace) + (Clearance) + 170mm = TT measurement

Example: 1560 + 160 + 160 + 100mm + 170mm = 2150mm / (85")

*At Bawa Trailer Parts, we default to using 50mm of clearance on both sides but can use anywhere between 35mm-50mm.



OUTSIDE OF TYRE TO OUTSIDE OF TYRE MEASUREMENT:

This measurement, also known as overall width, is similar to above where the calculations are quite easy, as long as we have the measurements required which are the tyre to tyre measurement and the front space of the rim and tyres. (If you are using wheels purchased from Bawa Trailer Parts, you can find the backspace information on our website.)

The equation for this one is as follows: (for all axle types.)*

Tyre to Tyre (TT) - Frontspace (FS) - Frontspace (FS) = Hub Face to Hub Face measurement

Example: 2200 – 75 – 75 = 2050mm

Tip to Tip: (+100mm to HF Measurement) 2150mm / ~85" (All axles except 2T)

Tip to Tip: (+170mm** to HF Measurement) 2220mm / ~87.4" (2T Dexter Axles)

* 'All axle types,' in reference to the axle types we sell at Bawa Trailer Parts.

** Certain 2T axles can be an additional 155mm rather than 170mm due to the different machining of certain axles.