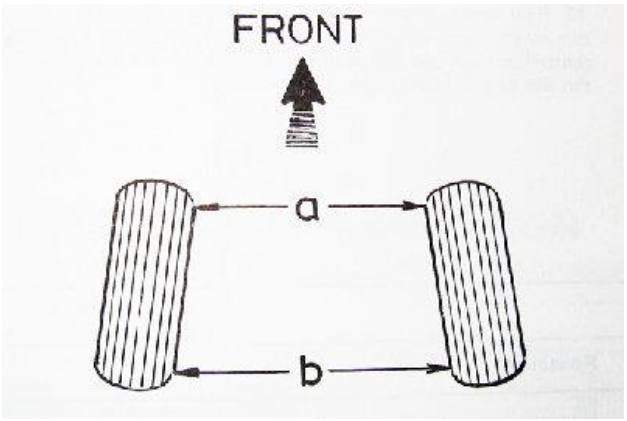
Toe-In /toe-out



Let's assume that the toe-in is defined in mm as $d_{toe-in} = (b - a)$ in the drawing above

And let's assume that the toe-in is defined in degrees as the angle between the 2 wheels (and not between each wheel and the direction of the car)

And there are also devices, like mine which will measure the toe-in as meters of sideslip per kilometer (of rolling). Since this measurement is taken with one wheel on the ground and the other skidding in the measuring pad, this represent to sum of the sideslip of the two wheels.

Let's define

- $d_{toe-in=}b - a$ the toe-in in mm
- ϑ_{toe-in} the angular toe-in in degrees
- SS_{toe-in} the sideslip toe-in in m/km
- $\emptyset_{wheel}$ the wheel diameter in mm

If you have the "regular" toe-in in mm, then:

- the formula to convert to angular toe-in in degrees is : $\vartheta_{toe-in} = \frac{d_{toe-in}}{\emptyset_{wheel}} \times \frac{180}{\pi} \cong \frac{d_{toe-in}}{\emptyset_{wheel}} \times 57$
- the formula to convert to sideslip toe-in in m per km is : $SS_{toe-in} = \frac{d_{toe-in}}{\emptyset_{wheel}} \times 1000$

If you have the toe-in in degrees, then:

- the formula to convert to "regular" toe-in in mm is : $d_{toe-in} = \frac{\vartheta_{toe-in}}{57} \times \emptyset_{wheel}$
- the formula to convert to sideslip toe-in in m per km is : $SS_{toe-in} = \frac{\vartheta_{toe-in}}{57} \times 1000$

If you have the toe-in given as meters of sideslip per km, then:

- the formula to convert to "regular" toe-in in mm : $d_{toe-in} = \frac{SS_{toe-in}}{1000} \times \emptyset_{wheel}$
- the formula to convert to angular toe-in in degrees is : $\vartheta_{toe-in} = \frac{SS_{toe-in}}{1000} \times 57$