



Anti Geometry of Independent Suspension Formulas

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List of 17 Anti Geometry of Independent Suspension Formulas

Anti Geometry of Independent Suspension 🗗

1) Angle between IC and Ground 🗹

 $\Phi ext{R} = a an igg(rac{ ext{SVSA}_ ext{h}}{ ext{SVSA}_ ext{l}}igg)$

Open Calculator

 $= a \tan \left(\frac{200 \text{mm}}{600 \text{mm}} \right)$

2) Camber Change Rate

 $\theta = a an \left(rac{1}{ ext{fvsa}}
ight)$

Open Calculator

 $oxed{ex} 36.89742^\circ = a anigg(rac{1}{1332 ext{mm}}igg)$

3) Front View Swing Arm

 $fvsa = \frac{\frac{a_{tw}}{2}}{1 - RC}$

Open Calculator

 $extbf{ex} 1332.667 ext{mm} = rac{rac{1999 ext{mm}}{2}}{1 - 0.25}$





4) Height of Centre of Gravity from Road Surface from Percentage Anti Dive

 $\mathbf{h} = rac{(\% B_f) \cdot \left(rac{\mathrm{SVSA_h}}{\mathrm{SVSA_l}}
ight) \cdot b_{\mathrm{ind}}}{\% \mathrm{AD_f}}$

Open Calculator 🗗

 $ext{ex} 10000 ext{mm} = rac{(60) \cdot \left(rac{200 ext{mm}}{600 ext{mm}}
ight) \cdot 1350 ext{mm}}{2.7}$

5) Height of Centre of Gravity from Road Surface from Percentage Anti Lift

 $\mathbf{h} = rac{(\% \mathrm{B_r}) \cdot \left(rac{\mathrm{SVSA_h}}{\mathrm{SVSA_l}}
ight) \cdot \mathrm{b_{ind}}}{\% \mathrm{AL_r}}$

Open Calculator

6) Percent Anti Squat

 $m \%AS = \left(rac{ an(\Phi R)}{rac{h}{b_{
m ind}}}
ight) \cdot 100$

Open Calculator

 $oxed{ex} 4.498704 = \left(rac{ an(18.43\degree)}{rac{10000 ext{mm}}{1350 ext{mm}}}
ight) \cdot 100$



7) Percentage Anti Dive on Front

 $\%{
m AD_f} = (\%{
m B_f}) \cdot rac{rac{{
m SVSA_h}}{{
m SVSA_l}}}{rac{{
m h}}{{
m b}_{
m ind}}}$

Open Calculator 🖸

ex
$$2.7 = (60) \cdot \frac{\frac{200 \mathrm{mm}}{600 \mathrm{mm}}}{\frac{10000 \mathrm{mm}}{1350 \mathrm{mm}}}$$

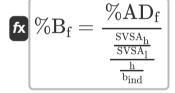
8) Percentage Anti Lift

 $m \%AL_r = (\%B_f) \cdot rac{rac{SVSA_h}{SVSA_l}}{rac{h}{b_{ind}}}$

Open Calculator 🖸

ex
$$2.7 = (60) \cdot \frac{\frac{200 \text{mm}}{600 \text{mm}}}{\frac{10000 \text{mm}}{1350 \text{mm}}}$$

9) Percentage Front Braking given Percentage Anti Dive



$$60 = rac{2.7}{rac{200 ext{nm}}{600 ext{mm}}}$$



10) Percentage Rear Braking given Percentage Anti Lift 🗗

 $m \%B_r = rac{rac{\% A L_r}{SVSA_h}}{rac{SVSA_h}{b_{ind}}}$

Open Calculator

 $\begin{array}{c} \textbf{ex} \ 60.88889 = \frac{2.74}{\frac{200 \text{mm}}{10000 \text{mm}}} \\ \hline & \frac{10000 \text{mm}}{1350 \text{mm}} \end{array}$

11) Roll Camber

 $RC = \frac{\theta c}{RA}$

Open Calculator 🗗

$$0.25 = \frac{2}{8}$$

12) Side View Swing Arm Height given Percentage Anti Dive

 $ext{SVSA}_h = rac{ \% AD_f}{ (\% B_f) \cdot rac{rac{1}{ ext{SVSA}_l}}{rac{h}{b_{ind}}} }$

Open Calculator 🗗

$$\mathbf{ex}$$
 $200 \mathrm{mm} = rac{2.7}{(60) \cdot rac{1}{600 \mathrm{mm}} rac{1000 \mathrm{mm}}{1350 \mathrm{mm}}}$



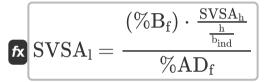
13) Side View Swing Arm Height given Percentage Anti Lift 🗗

 $ext{SVSA}_{h} = rac{\% A L_{r}}{(\% B_{r}) \cdot rac{rac{1}{SVSA_{l}}}{rac{h}{b_{ind}}}}$

Open Calculator

$$= \frac{2.74}{(60.88889) \cdot \frac{\frac{1}{600 \text{mm}}}{\frac{10000 \text{mm}}{1350 \text{mm}}} } }$$

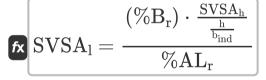
14) Side View Swing Arm Length given Percentage Anti Dive



Open Calculator 🗗

$$oxed{ex} 600 \mathrm{mm} = rac{(60) \cdot rac{200 \mathrm{mm}}{rac{10000 \mathrm{mm}}{1350 \mathrm{mm}}}}{2.7}$$

15) Side View Swing Arm Length given Percentage Anti Lift



$$ext{ex} 600 ext{mm} = rac{(60.88889) \cdot rac{200 ext{mm}}{rac{10000 ext{mm}}{1350 ext{mm}}}}{2.74}$$





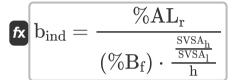
16) Wheelbase of Vehicle from Percentage Anti Dive

 $b_{
m ind} = rac{\% A D_f}{(\% B_f) \cdot rac{rac{{
m SVSA_h}}{{
m SVSA_l}}}{h}}$

Open Calculator

ex
$$1350 \mathrm{mm} = rac{2.7}{(60) \cdot rac{200 \mathrm{mm}}{10000 \mathrm{mm}}}$$

17) Wheelbase of Vehicle from Percentage Anti Lift



Open Calculator

ex
$$1370 \mathrm{mm} = rac{2.74}{(60) \cdot rac{200 \mathrm{mm}}{600 \mathrm{mm}}}$$



Variables Used

- %AD_f Percentage Anti Dive Front
- %AL_r Percentage Anti Lift
- %AS Percentage Anti Squat
- %B_f Percentage Front Braking
- %B_r Percentage Rear Braking
- a_{tw} Track Width of Vehicle (Millimeter)
- b_{ind} Independent Wheelbase of Vehicle (Millimeter)
- **fvsa** Front View Swing Arm (Millimeter)
- h Height of CG above Road (Millimeter)
- RA Roll Angle (Degree)
- RC Roll Camber
- SVSA_h Side View Swing Arm Height (Millimeter)
- SVSA_I Side View Swing Arm Length (Millimeter)
- θ Camber Change Rate (Degree)
- θc Camber Angle (Degree)
- ΦR Angle between IC and Ground (Degree)





Constants, Functions, Measurements used

- Function: atan, atan(Number)
 Inverse tan is used to calculate the angle by applying the tangent ratio of
 the angle, which is the opposite side divided by the adjacent side of the
 right triangle.
- Function: tan, tan(Angle)

 The tangent of an angle is a trigonometric ratio of the length of the side opposite an angle to the length of the side adjacent to an angle in a right triangle.
- Measurement: Length in Millimeter (mm)
 Length Unit Conversion
- Measurement: Angle in Degree (°)
 Angle Unit Conversion





Check other formula lists

 Anti Geometry of Independent Suspension Formulas

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