

NOTAT

Meaning of the various symbols which appear frequently in the thesis is given below. Notations which appear only at one or two places are not covered in this list but have been explained at the appropriate places. It has happened that the same letter has been used for two quantities or the same quantity is noted by different letters. This is mainly due to the notation in literature. However meaning is clear in the context of the description.

A	Area.
A	A <sub>2</sub> /A <sub>1</sub> area ratio for vehicle model.
a	distance of front axle from c.g. of vehicle.
B	Capillary coefficient (Chapter 2).
B	b/a.
b	distance of rear axle from c.g.
Cr	Capillary coefficient.
Cp	Specific heat at constant pressure.
Cv	Specific heat at constant volume.
D = d/dt	Operator.
E	Energy
g	gravitational accelerations.
H	Enthalpy.
h	height of air column at equilibrium position in airspring. Also reference displacement.
I = mk <sub>o</sub> <sup>2</sup>	moment of inertia.
K	Stiffness.
K <sub>c</sub> = $\frac{\gamma^2 P_o A^2}{V_o}$	
K <sub>r</sub>	Rubber wall stiffness.
m	Mass
m <sub>o</sub>	reference mass
M	dimensionless mass.
N	Volume ratio.
n	adiabatic index.
p	pressure
P = p/p <sub>o1</sub>	Dimensionless pressure.
Pr = AP <sub>o</sub> /mw <sup>2</sup> h	
q	Heat energy
r = w/w <sub>o</sub>	frequency ratio.
R <sub>1</sub> = a <sup>2</sup> /K <sub>o</sub> <sup>2</sup>	
Sr	Stiffness of auxiliary spring / (P <sub>o</sub> A <sup>2</sup> /V <sub>o</sub> )

T	Temperature or Transmissibility
u	internal energy , $v$ = volume
V	dimensionless volume
Vt	Tank volume/Airspring volume
Vr	$v_0/Ah$
W	Work
x	linear displacement at time t
X	dimensionless displacement or Amplitude of displacement
y	support motion at time t
Y	Amplitude of y
Z	Mechanical impedance

$$\alpha = v_{01}/(A_1 \cdot a)$$

$$\beta = v_{02}/v_{01}$$

$\gamma$  Adiabatic index

$\delta$  damping factor

$\eta$  loss factor

$$\epsilon = Crk_0/\omega v_0$$

$\omega$  reference frequency, excitation frequency

$$\omega_0 = \gamma Crk_0/v_0$$

$\omega_n$  natural frequency

$\theta$  angle of rotation

$\mu$  mass ratio, viscosity

$\xi$  damping factor

$\pi v$  volume ratio

$\Delta$  change in quantity

$$\lambda = P_{c2}/P_{c1}$$

$\tau = \omega t$  dimensionless time.

Suffix

g	gage pressure
t	tank
C	Cylinder
O	Initial value
1,3	Dimensionless variable
2,4	Derivative of dimensionless variable
1	Front axle for vehicle model
2	Rear axle for vehicle model