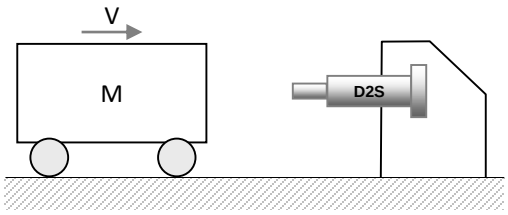
Dyna Shock System SAS

VISCOELASTIC DEVICES WITH HYDROSTATIC COMPRESSION OF ELASTOMER

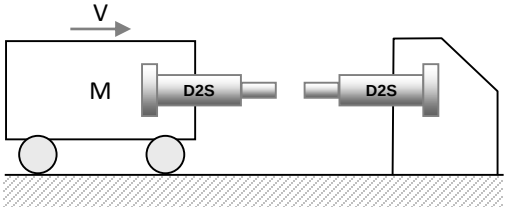
Sizing examples…

Case n° 1



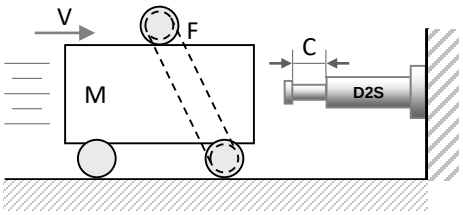
$E_T = E_C = 1/2 \times M \times V^2$

Case n° 2



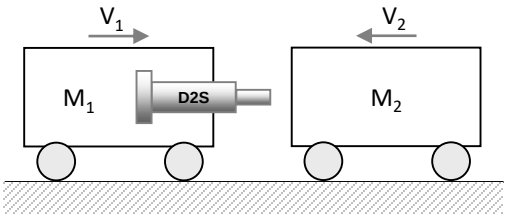
$E_T = E_C = 1/2 \times M \times V^2$

Case n° 3



$E_C = 1/2 \times M \times V^2$
$E_P = F \times C$
$E_T = E_C + E_P$

Case n° 4

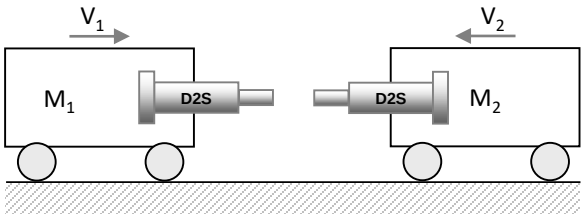


$E_T = E_C = 1/2 \times M_E \times V^2$

with: $M_E = \frac{M_1 \times M_2}{M_1 + M_2}$

and: $V = V_1 + V_2$

Case n° 5

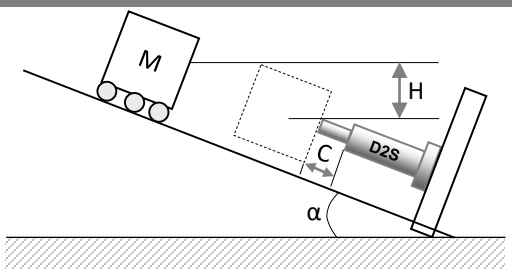


$E_T = E_C = 1/2 \times M_E \times V^2$

with: $M_E = \frac{M_1 \times M_2}{M_1 + M_2}$

and: $V = V_1 + V_2$

Case n° 6

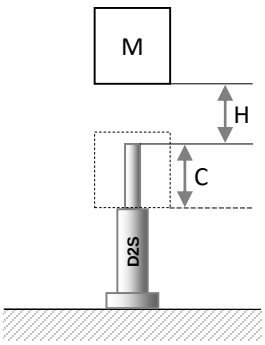


$E_C = g \times M \times H = 9{,}81 \times M \times H$
$F = g \times M \times \mathrm{Sin}\alpha = 9{,}81 \times M \times \mathrm{Sin}\alpha$
$E_P = F \times C$
$E_T = E_C + E_P$ et $V = \sqrt{2 \times g \times H}$

Definitions:

E_T = Total Energy (kJ)
E_C = Kinetic Energy (kJ)
E_P = Potential Energy (kJ)
M = Mass (t)
M_E = Effective Mass (t)
V = Impact Velocity (m/s)
F = Motive Force or Propelling Force (kN)
g = Acceleration (m/s^2)
C = Stroke of the shock absorber (m)
H = Falling Height (m)

Case n° 7



$E_C = g \times M \times H = 9{,}81 \times M \times H$
$E_P = g \times M \times C = 9{,}81 \times M \times C$
$E_T = E_C + E_P$ et $V = \sqrt{2 \times g \times H}$

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