

Mass & Stiffness matrix:

$$M = \begin{bmatrix} m_{eng} & & & & & \\ & m_{eng} & & & & \\ & & m_{eng} & & & \\ & & & I_{xx} & & \\ & & & & I_{yy} & \\ & & & & & I_{zz} \end{bmatrix}$$

$$K = \begin{bmatrix} 4 \cdot k_{axial} & & & & & \\ & 4 \cdot k_{tang} & & & & \\ & & 4 \cdot k_{tang} & & & \\ & & & 4 \cdot k_{tang} & & \\ & & & & \sqrt{\text{distance}_y^2 + \text{distance}_z^2} & \\ & & & & 4 \cdot k_{axial} \cdot \text{distance}_z & \\ & & & & & 4 \cdot k_{axial} \cdot \text{distance}_y \end{bmatrix}$$

Eigen frequencies:

- range from $\approx 34 \text{ Hz}$ to 100 Hz .
- Vibration isolation only from 6000^+ rpm .
- Order of modes: Y, Z, X, YY, ZZ, XX.

Conclusion:

Isolators will not help reduce the vibrations in fuselage.