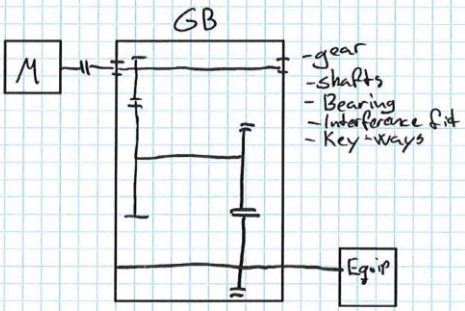
Rapport:



Analyze:

- concept
- Number of steps
- Gear ratio
- Number of teeth
- Requirement < 1%

Calculations:

- Forces F_t, F_r, F_a
- Stresses σ_b, σ_o
- Diagrams, bending moment, Torsional moment

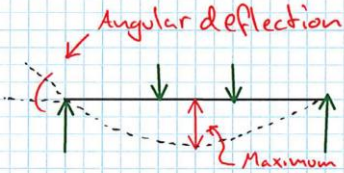
$$M_{b(res)} = \sqrt{M_{xy}^2 + M_{xz}^2}$$

- Shafts, diameter

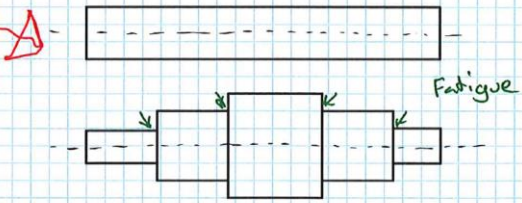
Resulting moment:

$$M_{res} = \sqrt{M_{b(res)}^2 + 0{,}75(\alpha_0 T)^2}$$

- Shafts, deflections
  angular deflection



- Decide the shape



- Fatigue
- Critical speed
  (rotational frequenzy)
- Interference fit

  Ex H7/s6

  δ_{min} → Torque (transmitted power)

  δ_{max} → Stresses in the gears

- Bearings
  axial and radial loads

$C = ?$ $\quad L_{10} = \left(\frac{C}{P}\right)^{3/3{,}3}$

- Lubrication