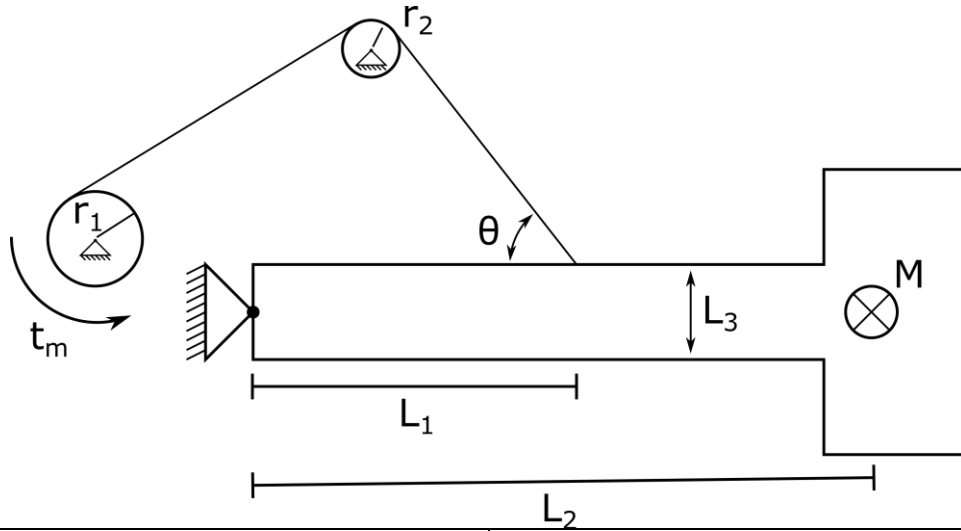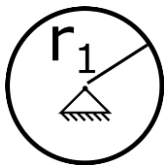# MAE3 - FBD Examples

In the following examples, solve for the motor torque required (τ_m) to lift the mechanism.
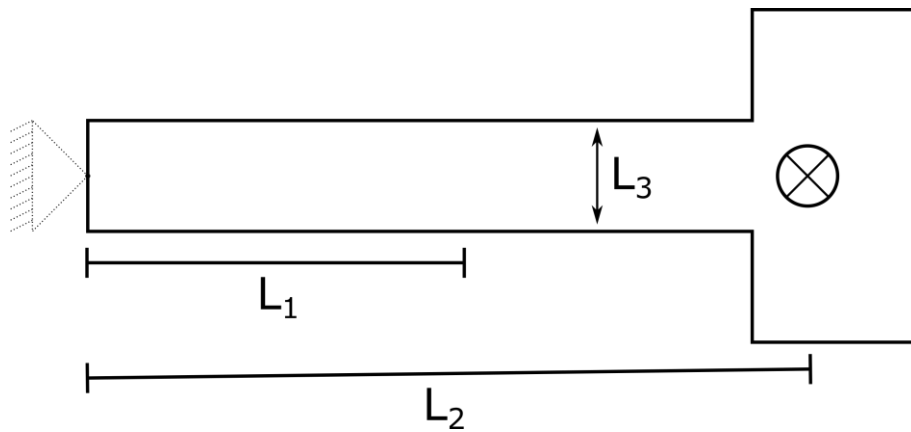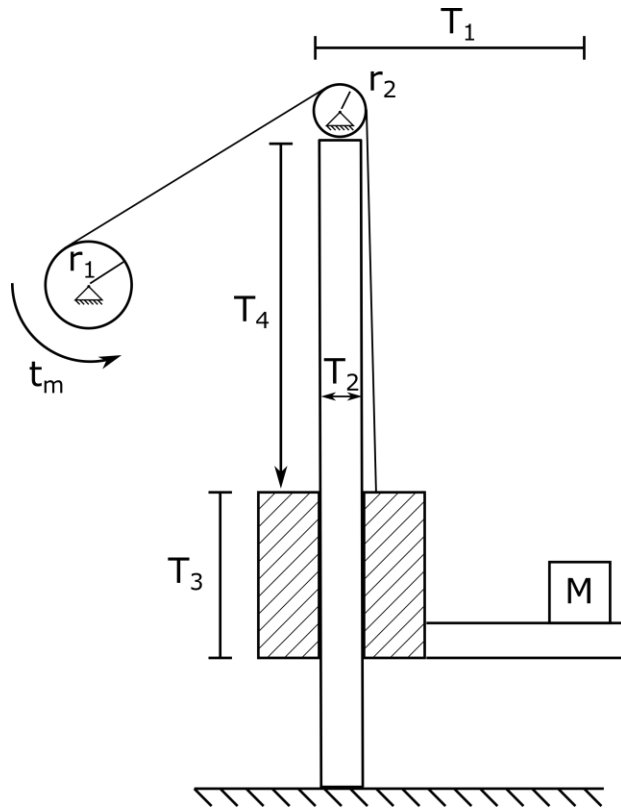

FBD 1:

FBD 2:

FBD3:

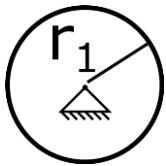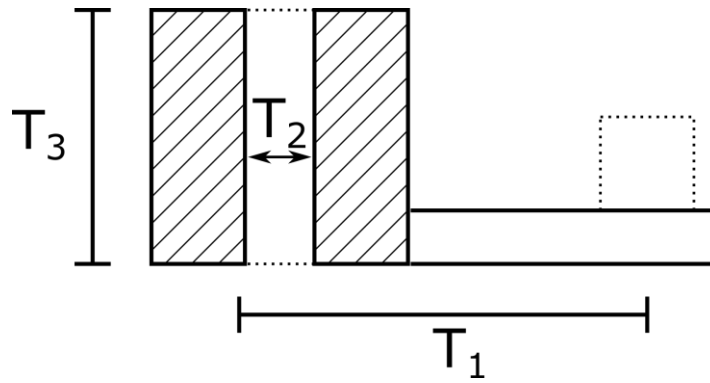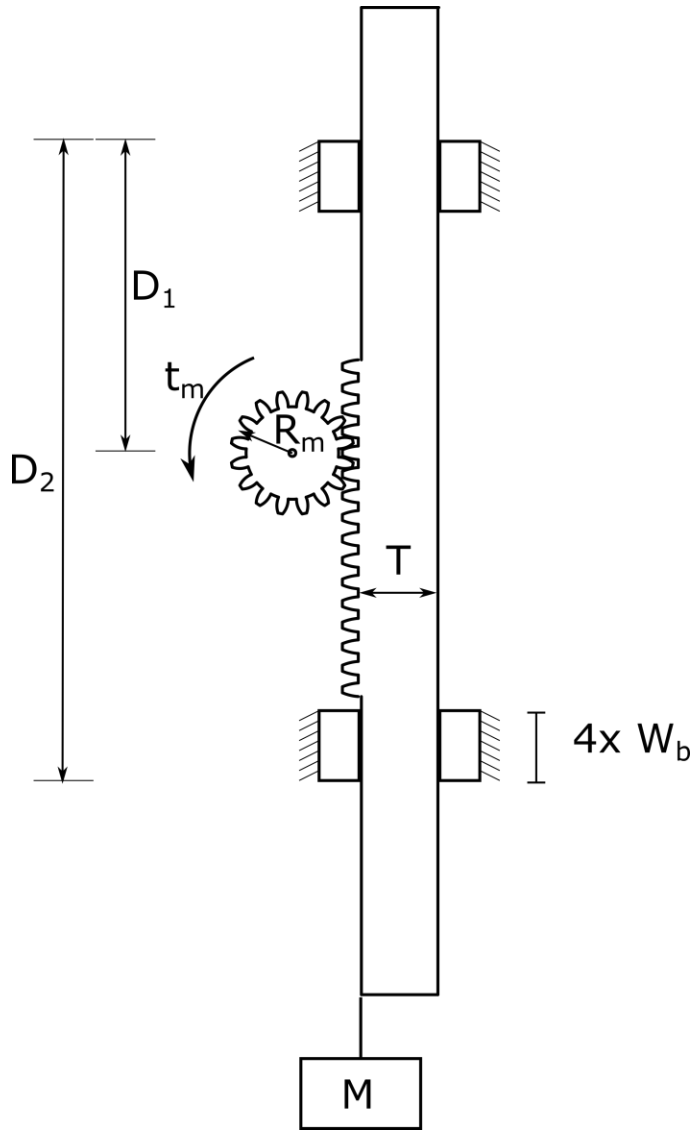Equations FBD 1:

Equations FBD 2:

Equations FBD 3:

Solve for τ_m:

FBD 1:

FBD 2:

FBD 3:

Equations FBD 1:

Equations FBD 2:

Equations FBD 3:

Solve for τ_m:

D₁

D_1

D_2

t_m

R_m

T

$4x\ W_b$
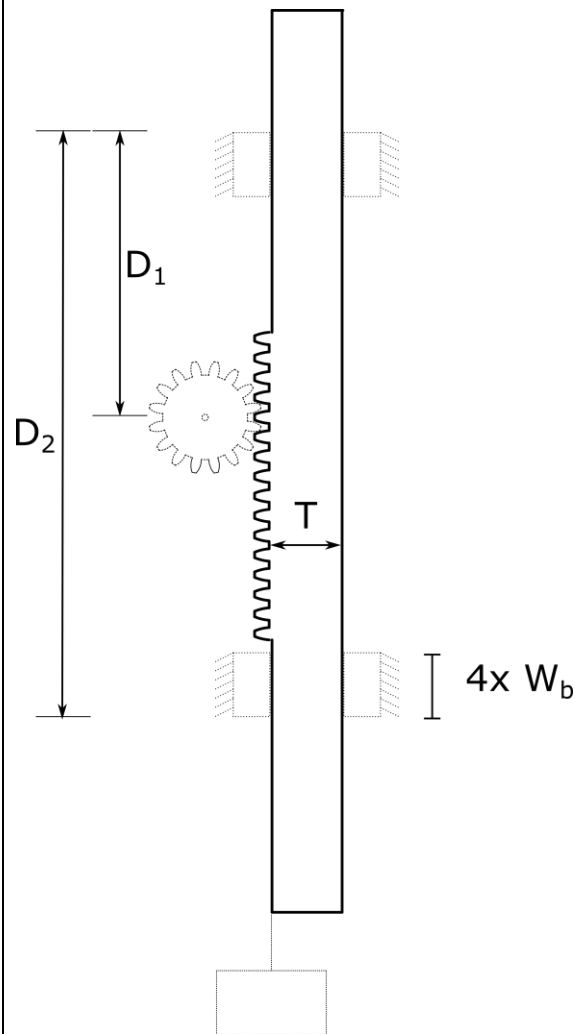
M

FBD 1:

R_m

FBD 2:

D_1

D_2

T

$4x\ W_b$
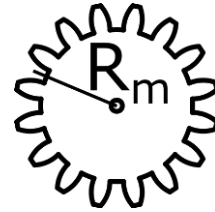
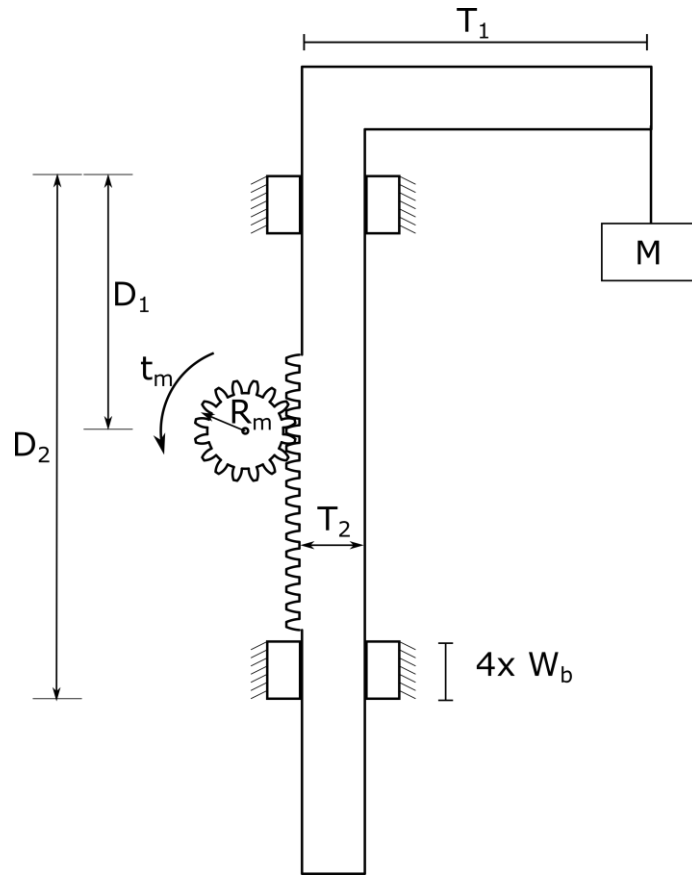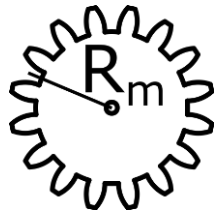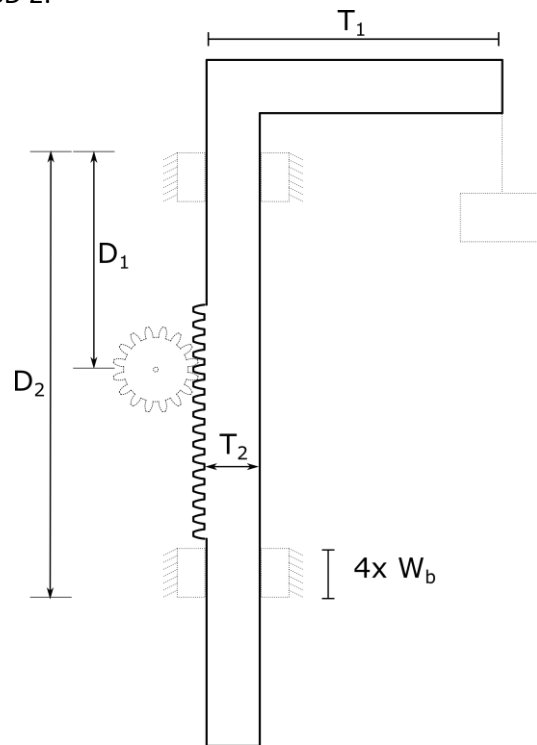Equations FBD 1:

Equations FBD 2:

Solve for τ_m:

FBD 1:

FBD 2:

Equations FBD 1:

Equations FBD 2:

Solve for τ_m: