

WHERE P = CABLE TENSION

f = ACCELERATION

W = MASS OF DOOR & WEIGHTS

$M_f f$ = MASS \times ACCEL (INERTIA)
FORCES

T = APPLIED TORQUE

T_f = FRICTIONAL "

$I\alpha$ = INERTIA TORQUE

IF WEIGHT OF DOOR & COUNTERWEIGHTS
ARE PERFECTLY BALANCED THEN

$$T = T_f + I\alpha$$

THEREFORE YOU ONLY HAVE TO OVERCOME
INERTIA OF PULLEY'S & FRICTION IN
THE SYSTEM.

