PS5: HTM-Kinematic coupling exercise

What to do

- Compliance error analysis (list assumptions)
- Kinematic coupling exists between A & B

R_{ball}	= 1 inch	$R_{groove1}=R_{groove2}$	= flat
$R_{coupling}$	= 12 inch	E_{ball}	= 30 x 10^6 psi
$\nu_{ball} = \nu_{ball}$	= 0.3	θ_{inc}	= 90 degrees
Preload	= 500 lbf		

- Ignore part 3 & 4 in your analysis

1. $\delta D|_A$: Parametric in terms of
   F, L_i, I_i, J_i, G_i, E_i, $k_{coupling}$

2. What percent of error is due to kinematic coupling compliance vs frame compliance?

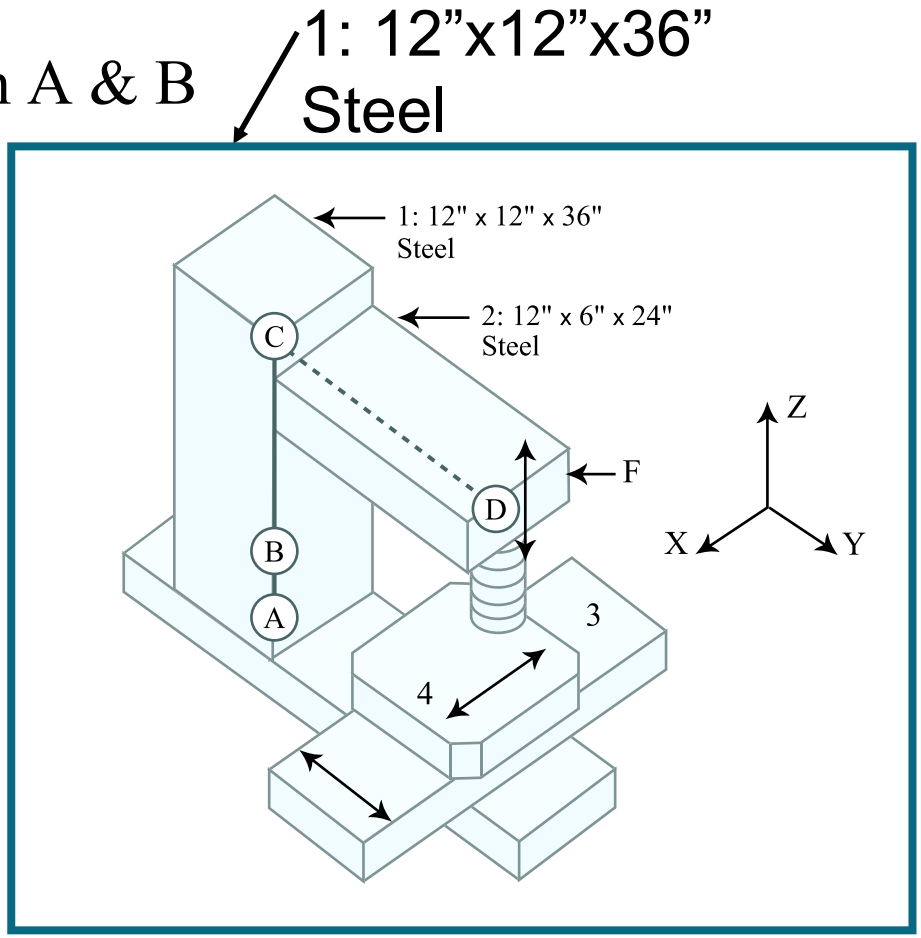

Figure by MIT OCW.