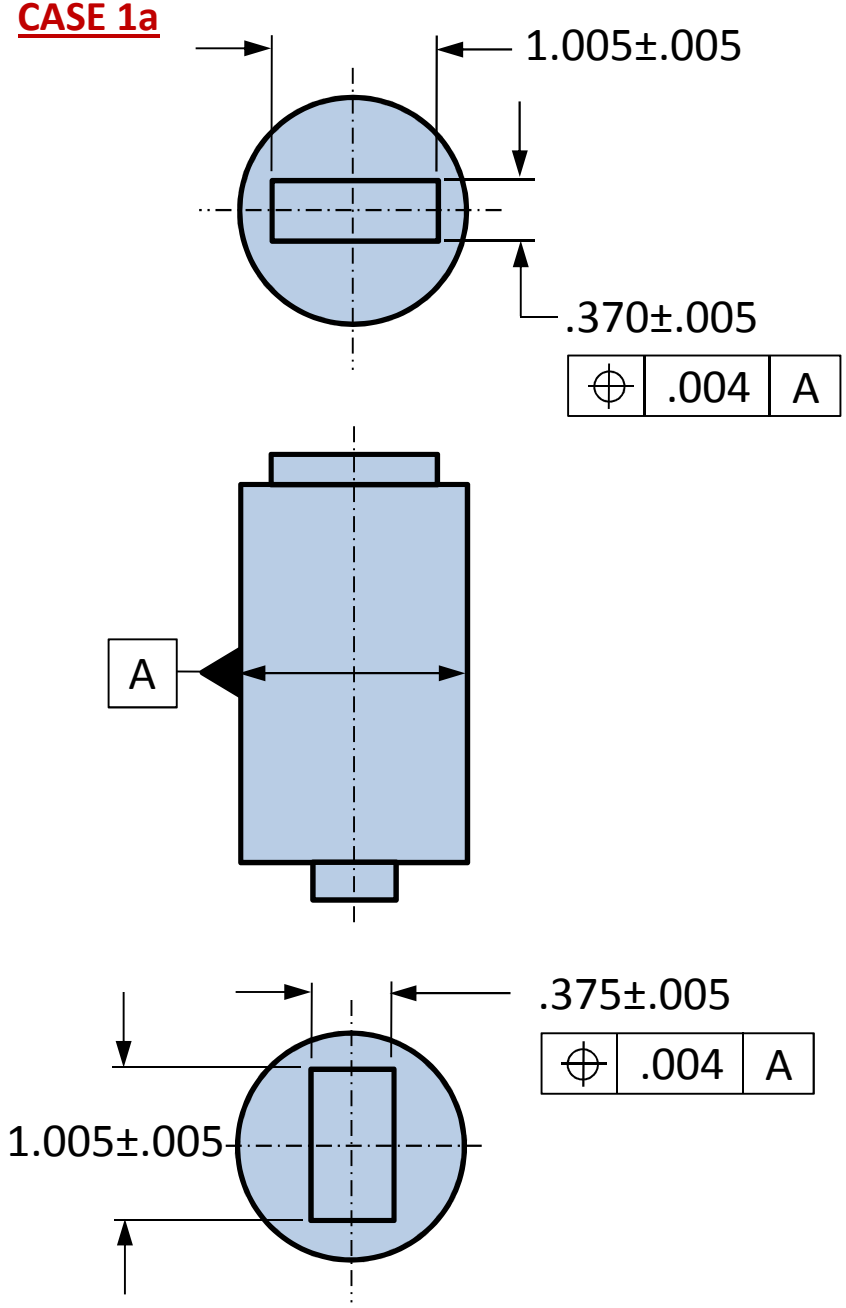
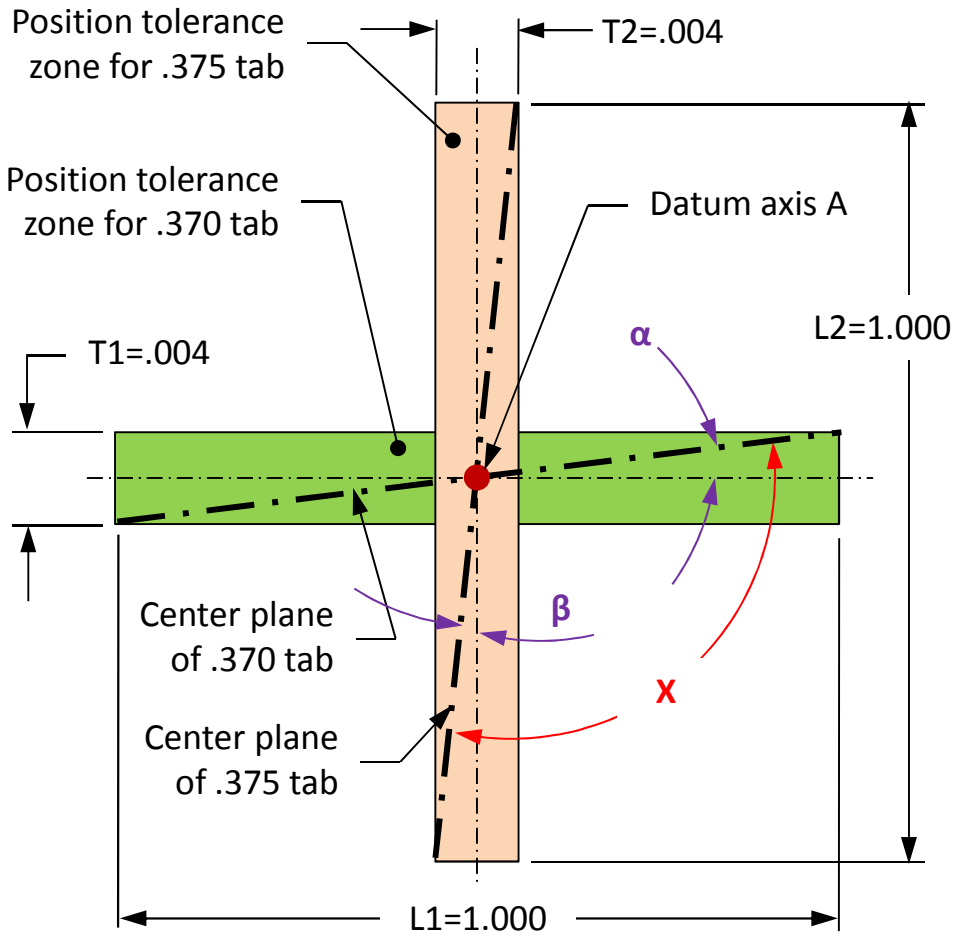
CASE 1

- All geometrical tolerances referenced at **RFS** basis
  - All datums referenced at **RMB** basis

CASE 1a



DIMENSIONING AND TOLERANCING PER
Y14.5-2009 (INTENTIONALLY INCOMPLETE)



What's the maximum angle (X) between tabs possible?

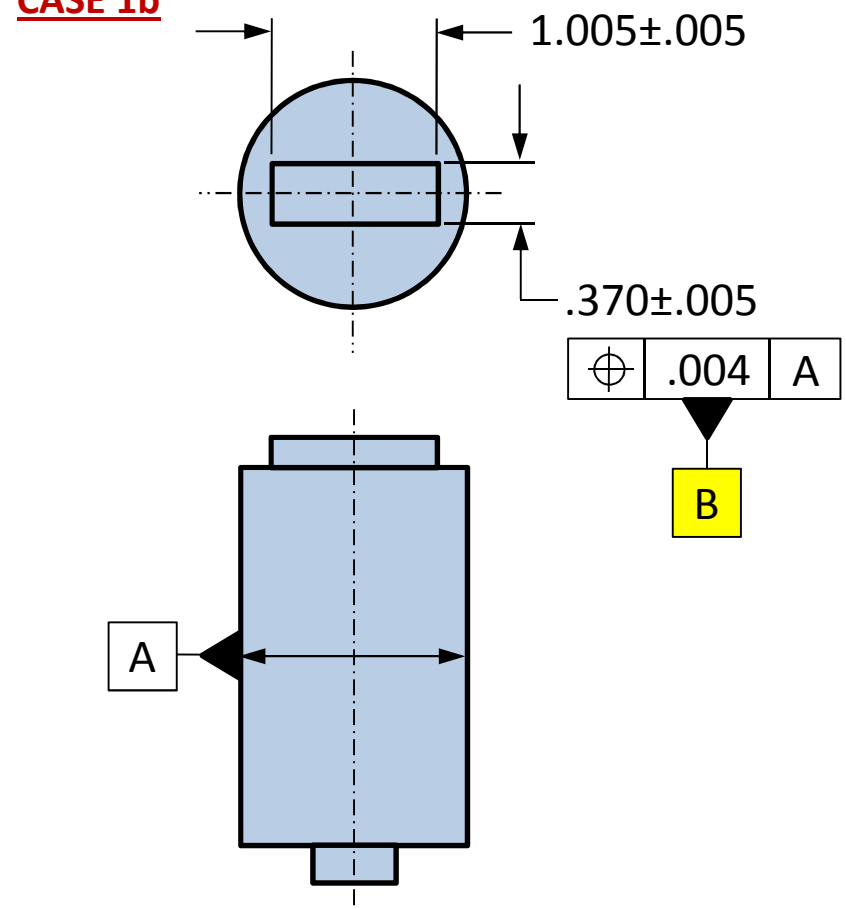
$X = 90^0 + \alpha + \beta$

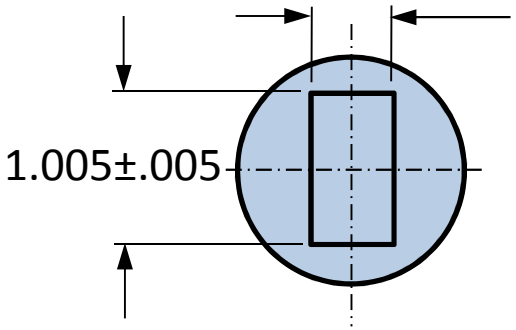
$\tan(\alpha) = 0.5*T1/0.5*L1 = T1/L1 \Rightarrow \alpha = \arctan(T1/L1)$

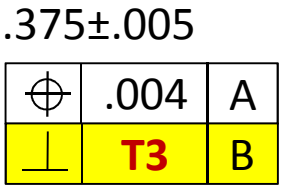
$\tan(\beta) = 0.5*T2/0.5*L2 = T2/L2 \Rightarrow \beta = \arctan(T2/L2)$

$X = 90^0 + \arctan(T1/L1) + \arctan(T2/L2)$ *(eq. 1)*

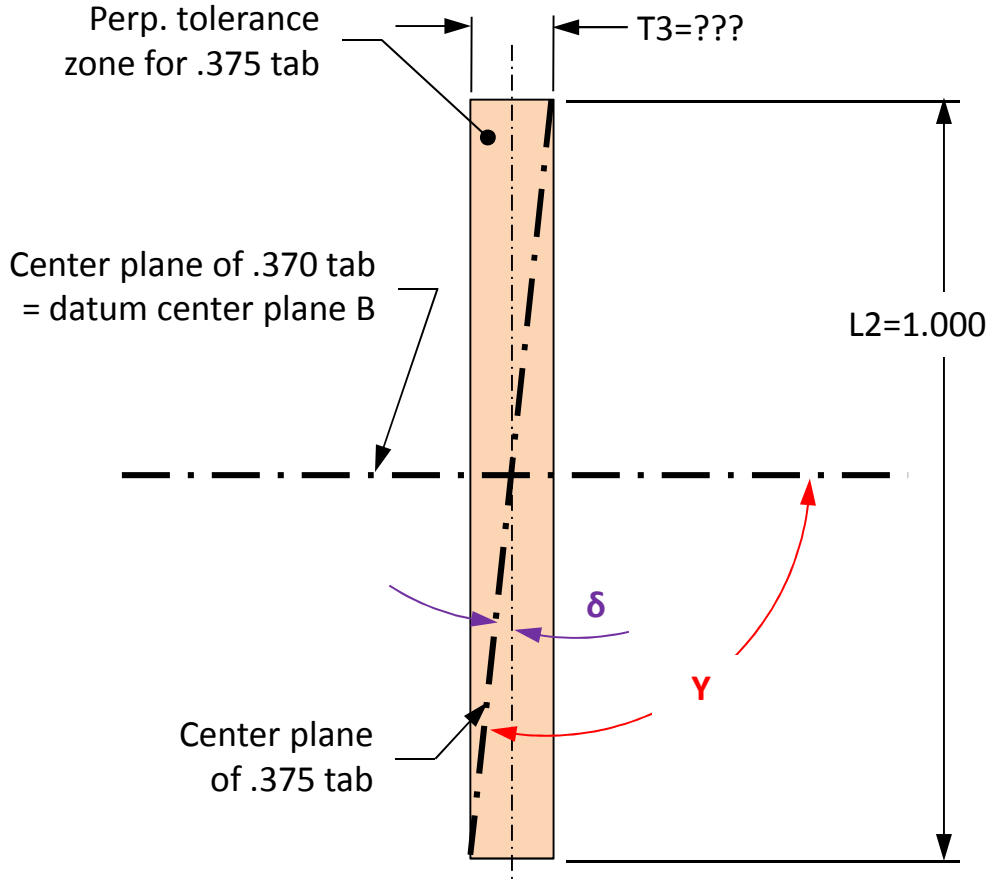
CASE 1b







DIMENSIONING AND TOLERANCING PER
Y14.5-2009 (INTENTIONALLY INCOMPLETE)



What's the maximum angle (Y) between tabs possible?

$Y = 90^0 + \delta$

$\tan(\delta) = 0.5*T3/0.5*L2 = T3/L2 \Rightarrow \delta = \arctan(T3/L2)$

$Y = 90^0 + \arctan(T3/L2)$ *(eq. 2)*

Perpendicularity will not be in conflict with Position if:

Y *(from eq.2)* < X *(from eq. 1)*

$90^0 + \arctan(T3/L2) < 90^0 + \arctan(T1/L1) + \arctan(T2/L2)$

$\arctan(T3/L2) < \arctan(T1/L1) + \arctan(T2/L2)$

$T3 < L2*\tan[\arctan(T1/L1) + \arctan(T2/L2)]$ => T3<.008