Model the assembly shown in the figures provided. Use the following information. The assembly is a scissors lift containing seven components: Lower Base, Upper Base, Link, Pivot, Short Pin, Long Pin, and Shaft. There are two short pins, two long pins, two pivots, and eight links in the assembly.

- Unit system: IPS (inch, pound, second)
- Assembly origin: As shown
- Decimal places: 2
- A = 20.50
- B = 6.50
- C = 36°
- Material: AISI 1020 for all components.
- Each base has .025″ internal radii.
- The shaft is centered in the assembly horizontally (from left to right) and vertically (between the lower base and upper base).
- The shaft fits in the holes in the pivot (no clearance).
- The pins fit in the holes at the ends of the links and each base (no clearance).
- All links are oriented at the same angle (Angle C).
- All holes are “through” holes.

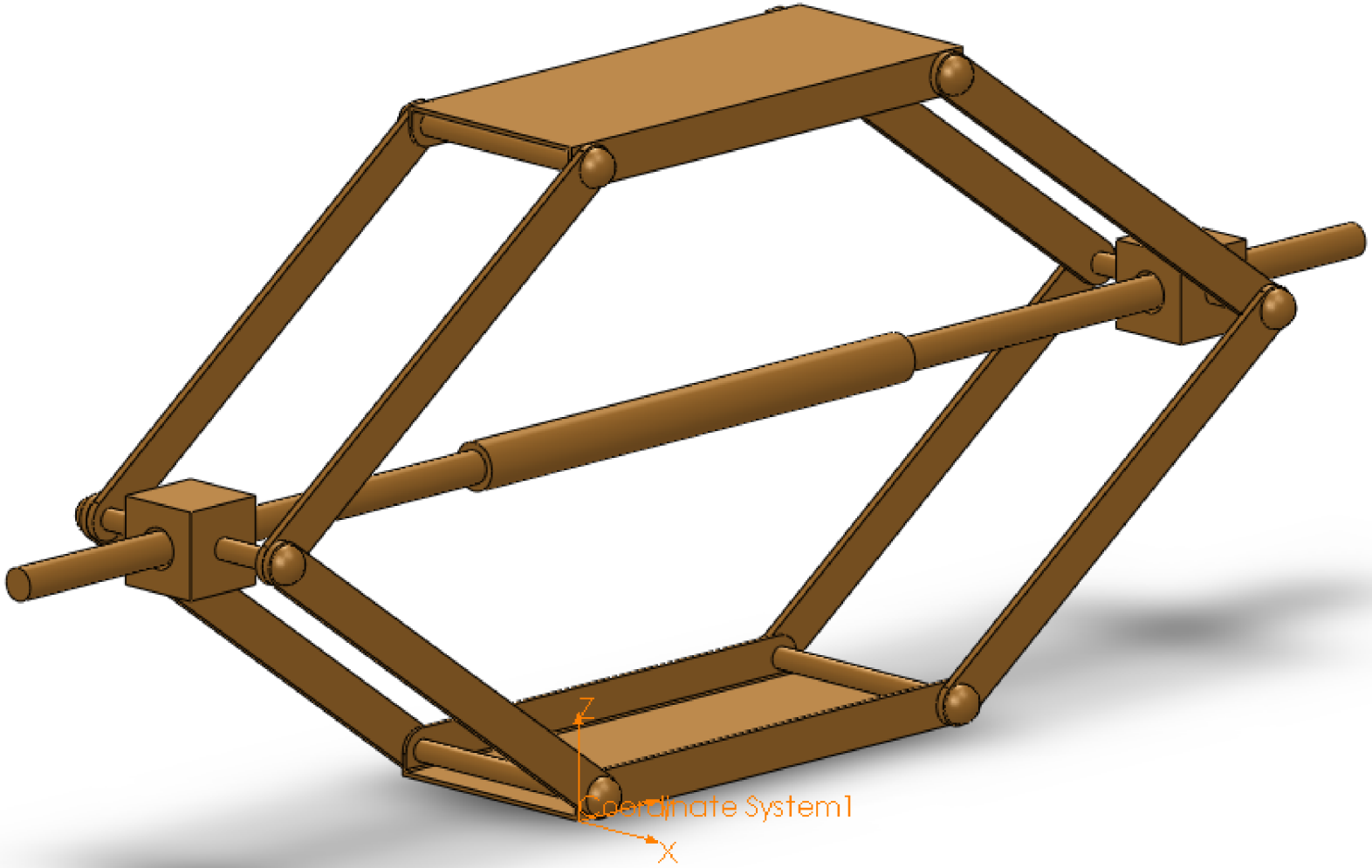
What is the center of mass of the assembly with respect to the illustrated coordinate system?

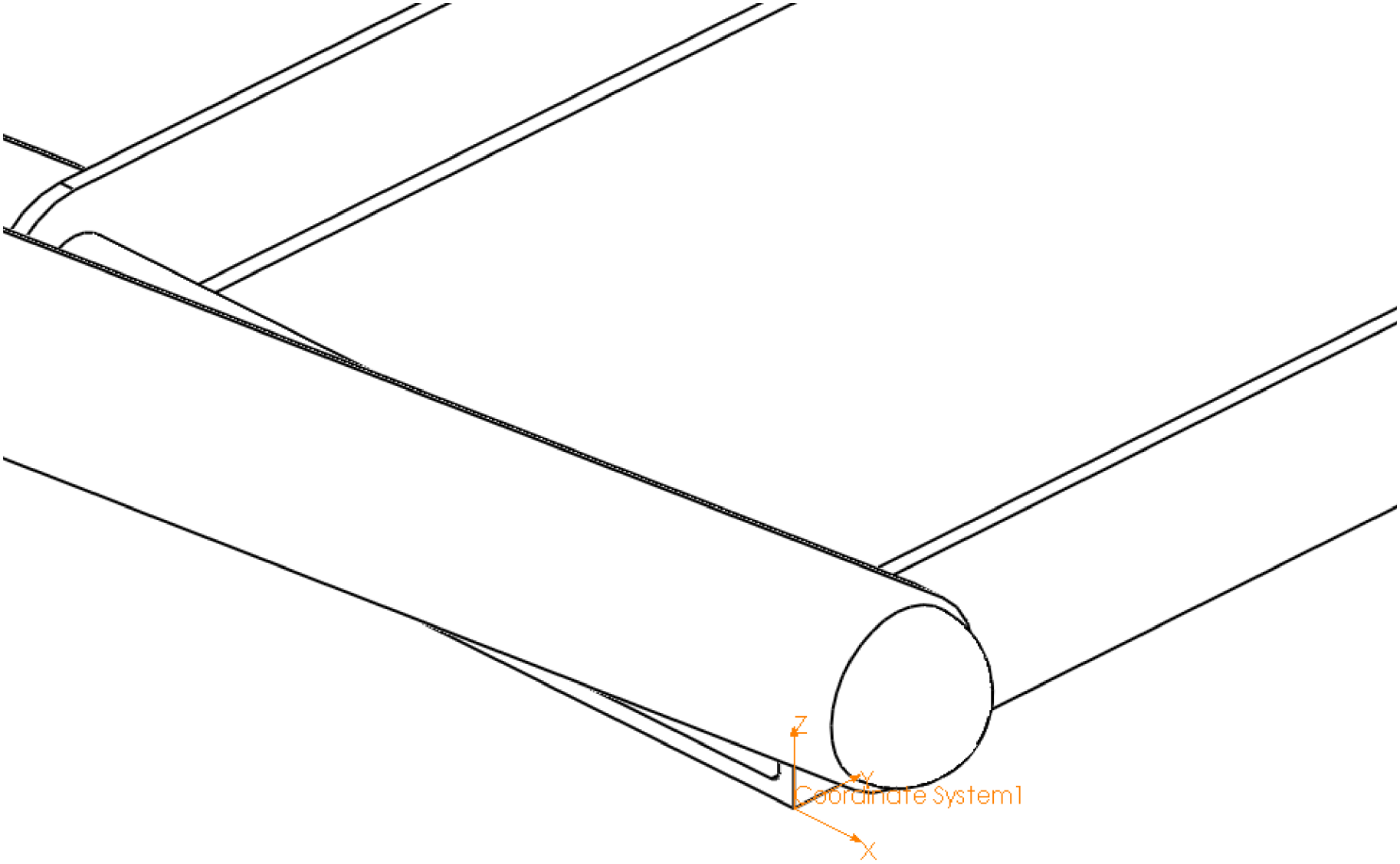
A. X = –1.35, Y = 3.00, Z = 4.25

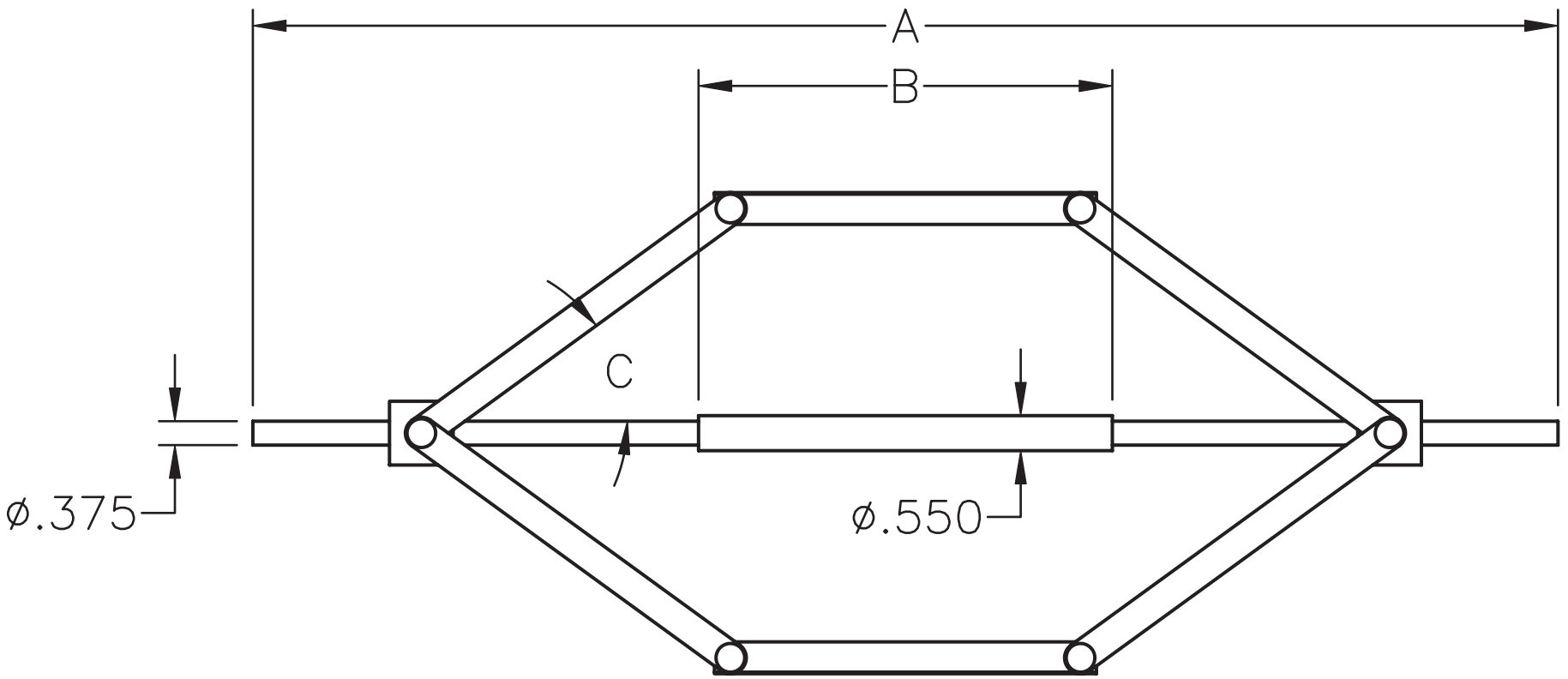
B. X = –1.35, Y = 3.00, Z = 3.75

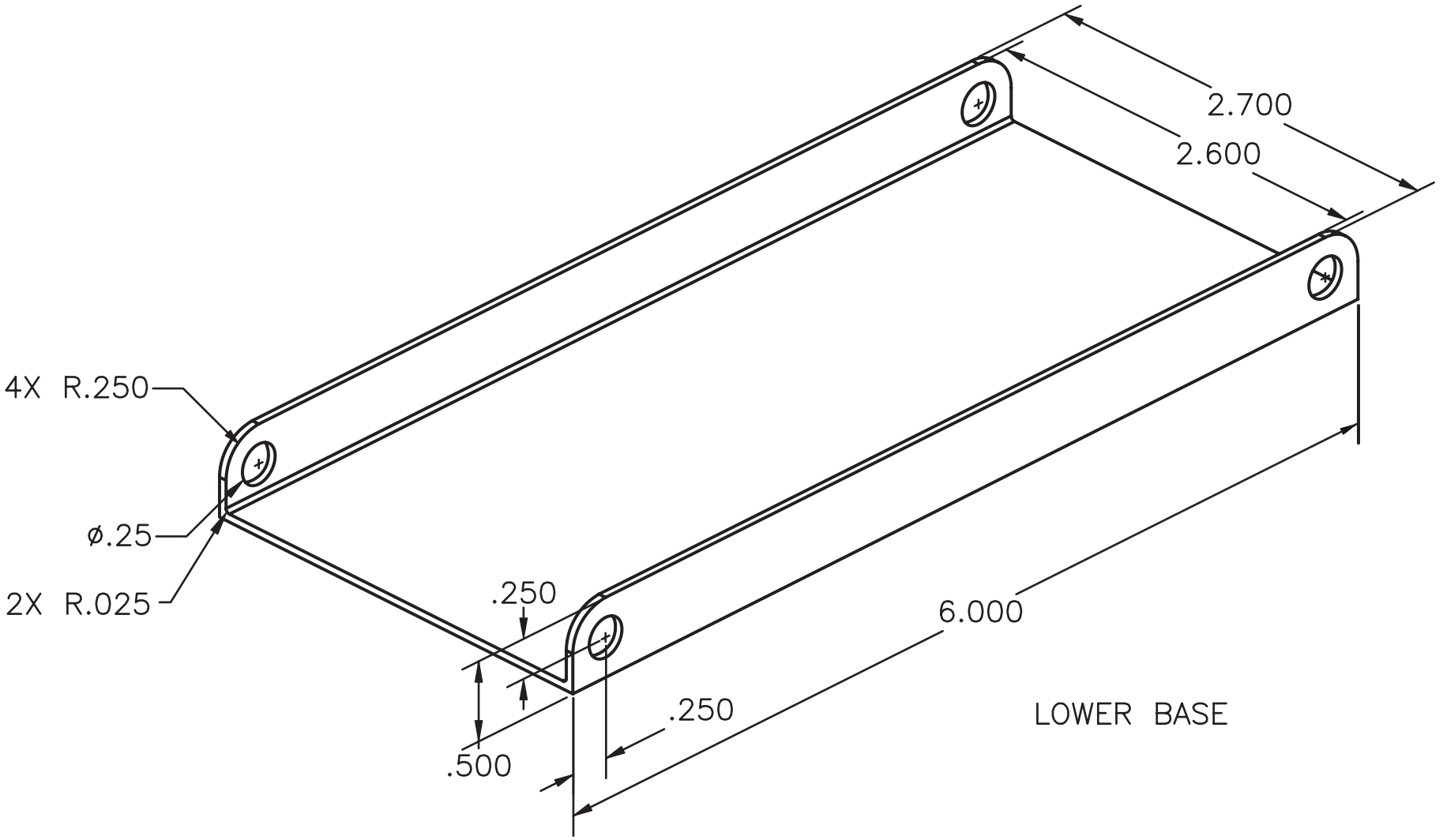
C. X = 1.35, Y = 3.00, Z = 3.75

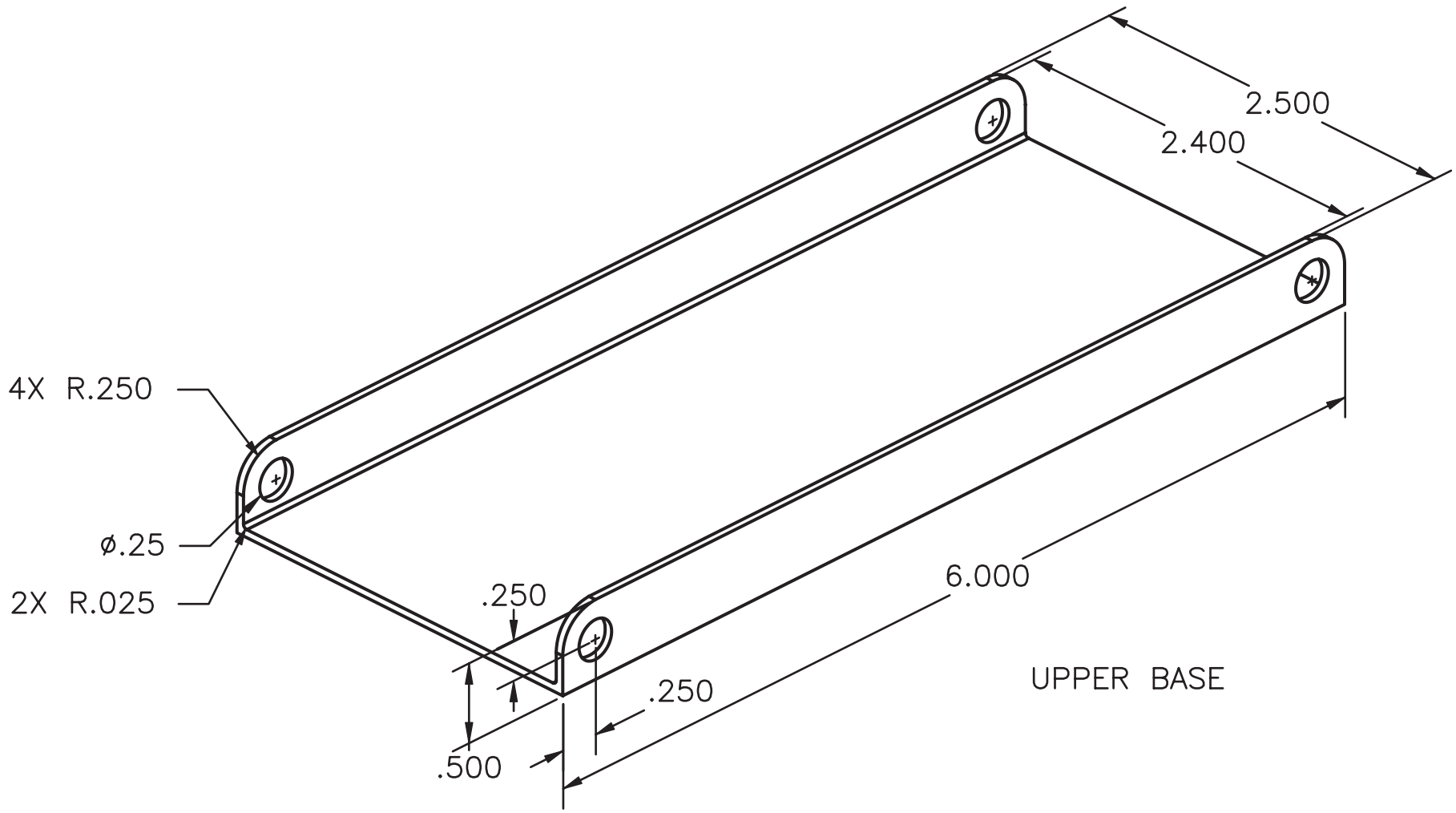
D. X = 1.35, Y = 3.00, Z = 4.25

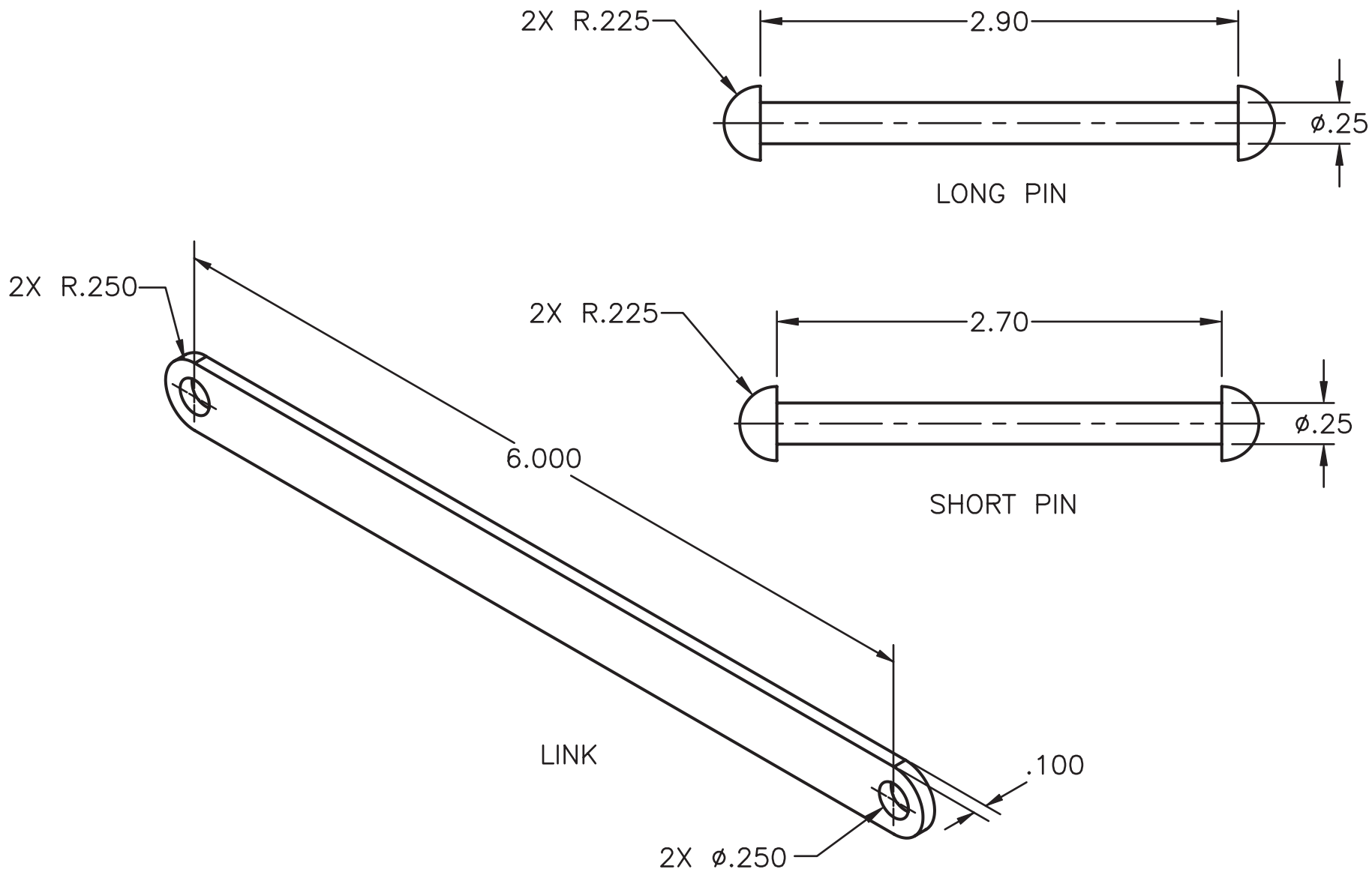

Z
Coordinate System1
X

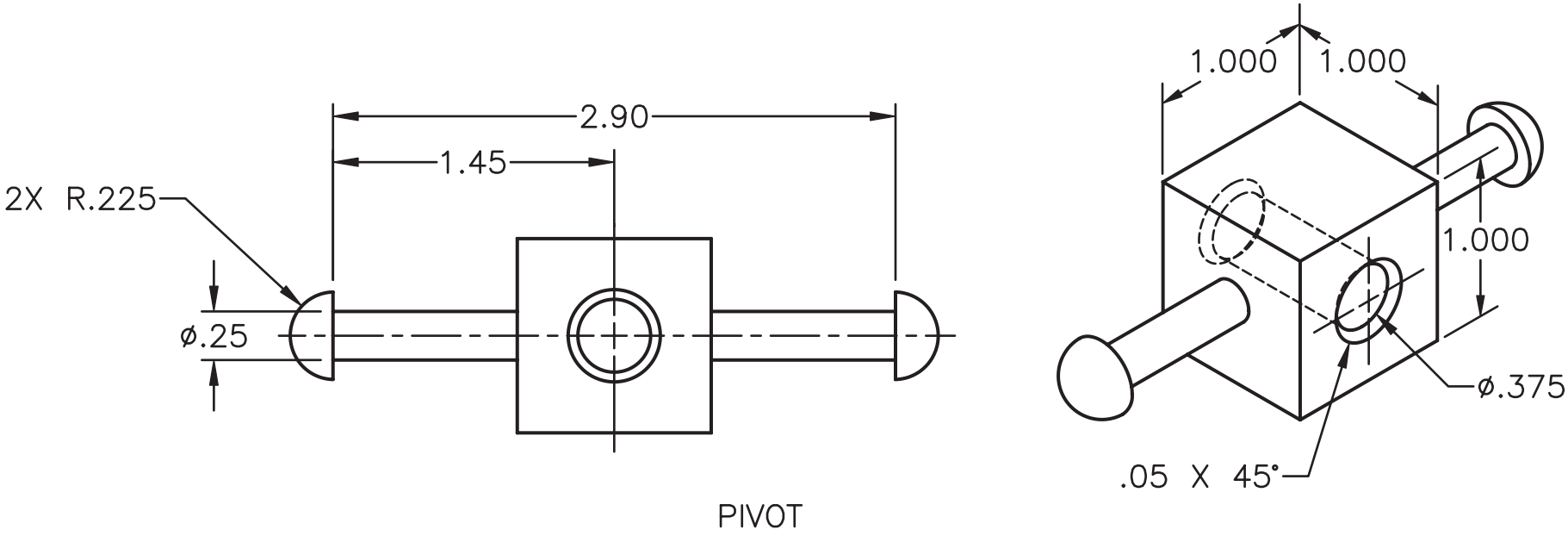

Z
Y
X
Coordinate System1


A
B
C
ø.375
ø.550


2.700
2.600
4X R.250
ø.25
2X R.025
.250
6.000
.250
.500
LOWER BASE


2.500
2.400
4X R.250
ø.25
2X R.025
.250
6.000
.250
.500
UPPER BASE


2X R.225
2.90
ø.25
LONG PIN
2X R.250
2X R.225
2.70
ø.25
SHORT PIN
6.000
LINK
.100
2X ø.250



PIVOT