# 3D Signpost - Exercises

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**Problem Specification** 

- 1. Pre-Analysis & Start-Up
- 2. Geometry
- 3. Mesh
- 4. Physics Setup
- 5. Numerical Solution
- 6. Numerical Results
- 7. Verification & Validation

Exercises

Comments

## **Exercises**

## Exercise 1:

Repeat the same analysis as in the tutorial using hollow tubes for the post with outer-to-inner diameter ratios of 1.1, 1.3, and 1.5. How do these designs compare with that for the solid post?

## **Exercise 2:**

Investigate the effect of the approximation of the sign weight as a uniformly distributed load by replacing it with a gravity body force loading.

#### **Exercise 3:**

Investigate a similar refinement of the model by replacing the uniform weight loading of the post by a gravity body force.

## Exercise 4:

Holding loadings constant and varying a single load at a time, what wind and weight loadings would be required to exceed the design criteria for loading the signpost?

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