Modeling Spring Cans with Friction

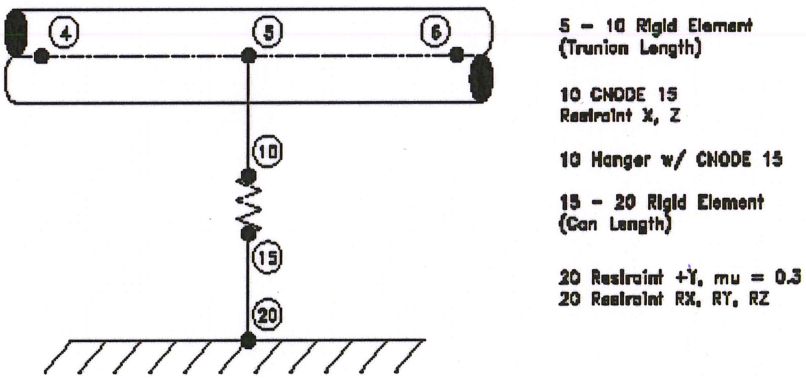
In many systems, portions of the pipe are supported by spring cans. These spring cans perform the same function as spring hangers, except that they are below the pipe, pushing up. In some models, these spring cans are allowed to slide on their foundation, subjecting the system to friction forces.

Each support of this type needs the following:

- A rigid element from the pipe center to the top of the can. Length equals pipe radius + insulation thickness + cladding thickness + shoe height + any trunnion height.
- A CNode to connect to the spring. Except for the vertical spring stiffness, all other displays of freedoms are rigidly connected.
- A rigid element representing the height of the spring can.

These points are illustrated in the example below.

Model of Spring Can with Friction



Alternatively, element 15-20 can be omitted with the +Y restraint (with friction) placed directly on node 15.

TIP This modeling technique can also be used in situations where the shoe or trunnion slides on top of a bolted spring can.