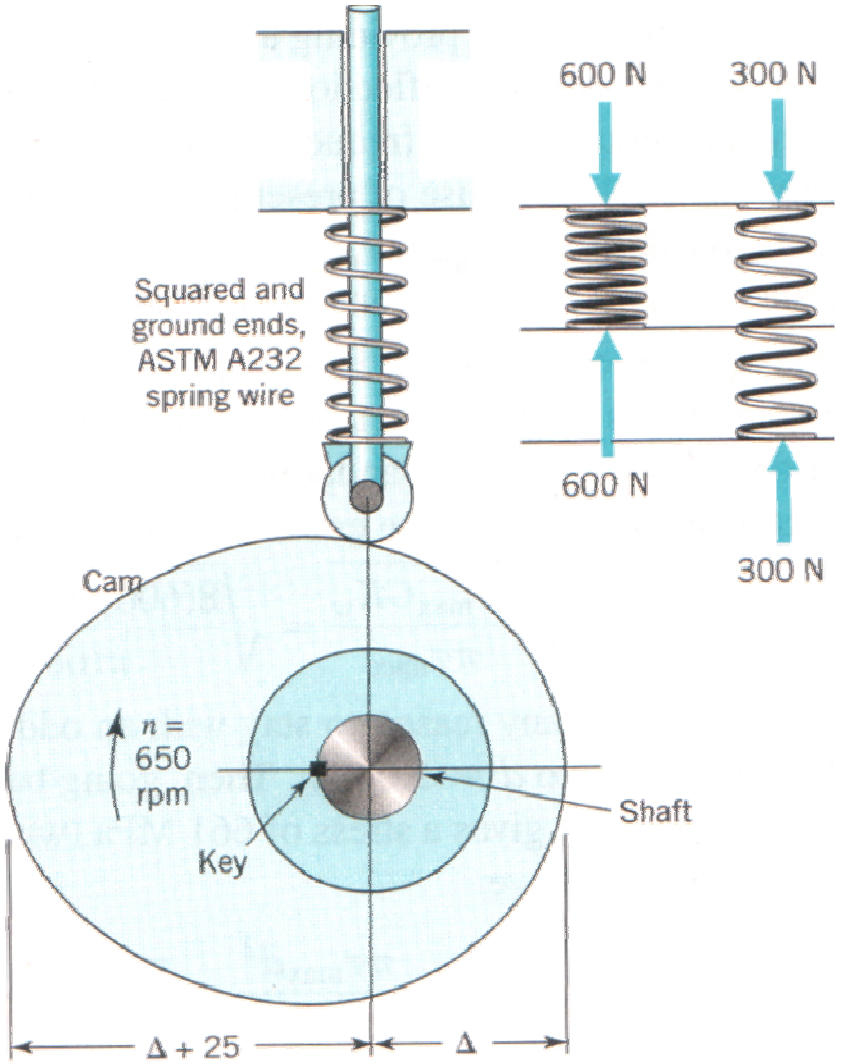
A cam rotates at 650 RPM, raising and lowering a follower once per revolution.

The follower is to be held against the cam by a helical compression spring with a force that varies between 300N and 600N as the spring length changes by 25mm.

Design a spring made of shot-peened chrome-vanadium steel spring wire (ASTM A232: G = 79.3 GPa).

Determine d, D, N, and L_{free}. Check buckling & natural frequency.

Suggestion: pick a C in the middle of the typical range.



[Juvinall Sample Problem 12.2D]