

Appendix

D

Springs Challenge 1

Using the values in the table below, we need to compute the spring index, Wahl value, the spring rate, initial spring tension, and the force at planned extension. Draw a front orthographic view of the extension spring and create a table showing engineering data for the spring.

Variable	Description	Value
d	The diameter of the wire in inches	0.024 in.
D	The mean diameter of the coil in inches	0.156 in.
F	The normal spring load in pounds	2.5 lbs
f	The deflection at maximum load in inches	1.1 in.
G	The modulus of rigidity of material (psi)	11,500,000 lbs/ in^2
ID	Inside diameter in inches	0.132 in.
L	The spring's free length in inches	1.37 in.
OD	Outside diameter in inches	0.180 in.

Figure D.1 – An Extension Spring Purchase Drawing

*** World Class CAD Challenge 8-54 * - Compute the spring data for an extension spring with the following data. Make a purchasing drawing for the spring showing the front orthographic view and a table of data. Place the drawing and table in a standard “B” size border and complete the title block.**

Send your best time and a copy of your drawing for verification to the authors of these problems to have your name, location and time posted. See the web site for instructions.

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