

Input Parameter					
L (in)	7.25	Outer pin center to center distance			
D (in)	0.375	Pin diameter			
d (in)	0.09375	Cable Diameter			
t (in)	0.5	Plate thickness			
r	2	Ratio of h/t			
G (in)	0.492126	Effective strain Gage Length			
T (lb)	2000	Trial tension value			
E (psi)	1.00E+07	Modulus of elasticity			
$\sigma_y$ (ksi)	36	Yield strength			
x (in)	0.4063	Location of strain gage centroid			
Output Values					
l <sub>c</sub> (in)	2.344	Length of cantilever			
h (in)	1	Cantilever x-sect height			
I (in <sup>4</sup> )	0.04166666667	Moment of inertia			
$\Theta$ (rad)	0.1296734537	Fixed cable deflection angle (assumes no cantilever deflection)			
F (lb)	517.2413793	Pin load on cantilever, due to cable tension (assuming no cantilever deflection)			
$\sigma$ (ksi)	12.02555172	Cantilever stress at strain gages			
$\epsilon$ ( $\mu\epsilon$ )	1,202.56	Micro strain = 1 million times stress/modulus			
y (in)	0.001332	Cantilever deflection			
$\Theta'$ (rad)	0.1293060453	Corrected cable deflection angle by adding deflection			
% Error	0.28%	% difference of assumed cable deflection angle and corrected cable deflection			
S	2.993625642	Safety Factor			