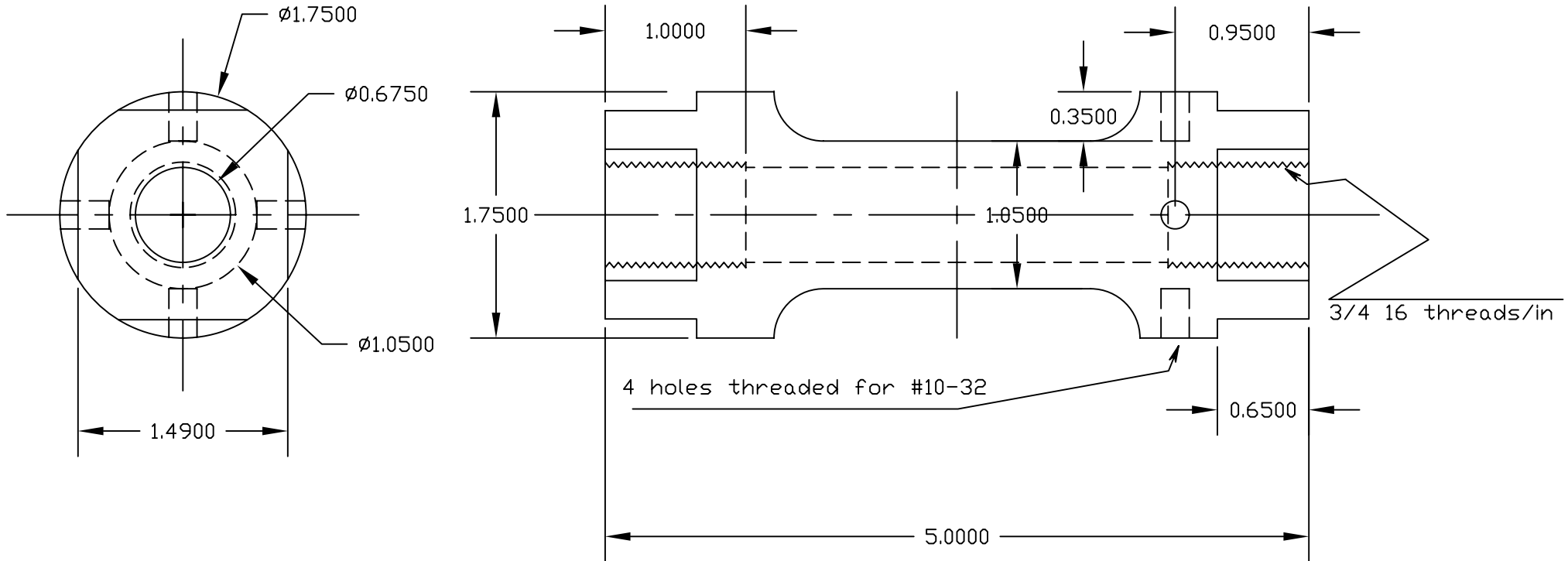


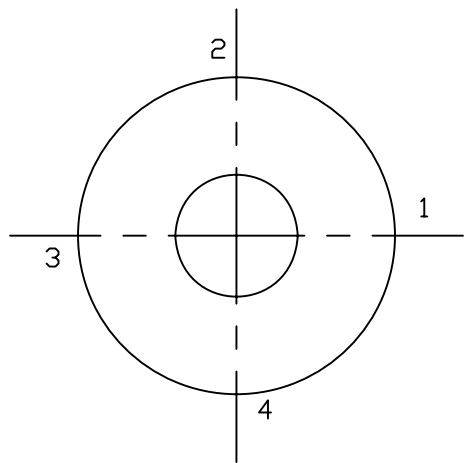
Specifications:  
 LC factor ~ 540 MS/kips



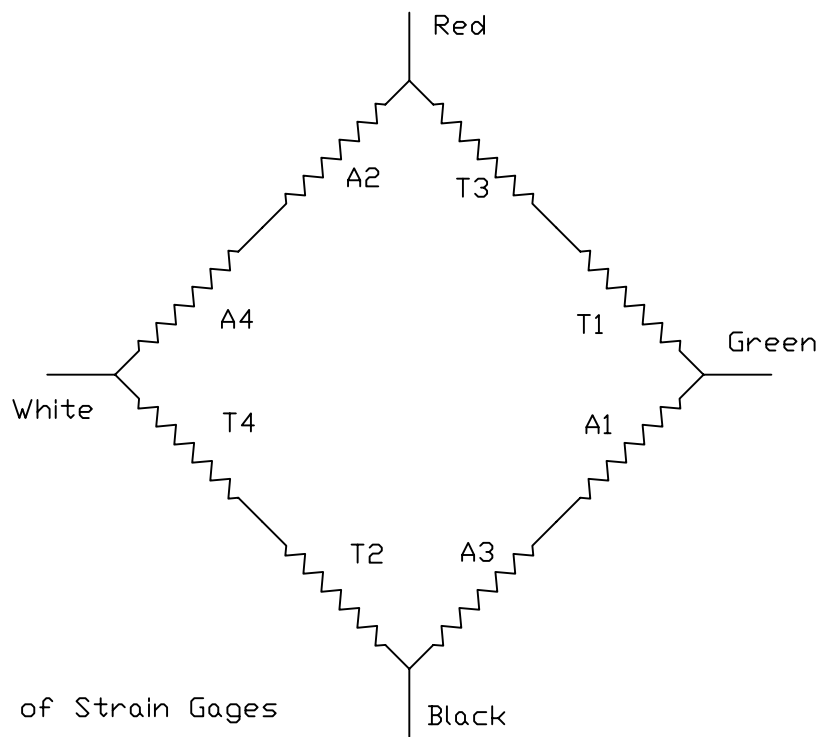
Date: 03/15/2006	Drawn by: S. Takhrov		
Material: AL 7075-T6	Title: Body of 15 kip Load Cell		
Note: Designed for installation in actuator			
Sheet 1 of 2	EERC, University of California, Berkeley		

Gage Installation Details:  
 Gages: MM CEA-13-062UT-120 (Gage factor - 2.09)  
 Terminals: CEG-50C  
 Glue: M-Bond AE-15  
 M-Coat A  
 M-Coat B  
 M-Coat J

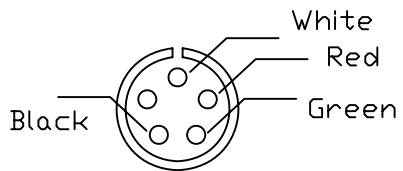
Notation of Strain Gage Locations



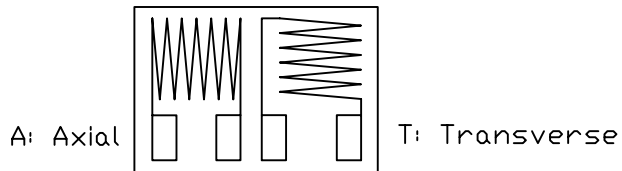
Wiring of Strain Gages



Small 5-pin Connector Wiring



Notation of Strain Gages



Date: 03/16/2006	Drawn by: S. Takhirov		
Material:	Title: Wiring of 15 kip Load Cell		
Note: Designed for installation in actuator			
Sheet 2 of 2	EERC, University of California, Berkeley		

Calibration of EERC 15Kip Load Cell: LC1 (2006NC53001)

Wes&Shakhzod

200K Baldwin-Southwark UTM

NEES 3800 gage box

3/14/2006

Load, kips	Up, MS	Down, MS	SlopeUp, MS/kips	SlopeDown, MS/kips	NonlinearityUp, %FS	NonlinearityDown, %FS
0	0	5				
2	1113	1039	556.50	519.50	-0.49%	0.43%
4	2200	2114	550.00	528.50	-0.65%	0.41%
6	3282	3182	547.00	530.33	-0.76%	0.49%
8	4340	4256	542.50	532.00	-0.56%	0.48%
10	5409	5330	540.90	533.00	-0.50%	0.48%
12	6467	6399	538.92	533.25	-0.31%	0.54%
14	7485	7444	534.64	531.71	0.38%	0.89%
15	8031	8031	535.40	535.40	0.27%	0.27%
<b>Averages:</b>			<b>543.23</b>	<b>530.46</b>	<b>Final:</b>	
					<b>536.85 MS/kips</b>	

Calibration of EERC 15Kip Load Cell: LC2 (2006NC53002)

Shakhzod

200K Baldwin-Southwark UTM

NEES 3800 gage box

3/14/2006

Load, kips	Up, MS	Down, MS	SlopeUp, MS/kips	SlopeDown, MS/kips	NonlinearityUp, %FS	NonlinearityDown, %FS
0	0	2				
2	1108	1048	554.00	524.00	-0.43%	0.31%
4	2196	2133	549.00	533.25	-0.62%	0.16%
6	3275	3199	545.83	533.17	-0.69%	0.25%
8	4343	4270	542.88	533.75	-0.63%	0.28%
10	5397	5322	539.70	532.20	-0.39%	0.54%
12	6453	6355	537.75	529.58	-0.18%	1.04%
14	7421	7440	530.07	531.43	1.13%	0.89%
15	8013	8013	534.20	534.20	0.44%	0.44%
<b>Averages:</b>			<b>541.68</b>	<b>531.45</b>	<b>Final:</b>	
					<b>536.56 MS/kips</b>	

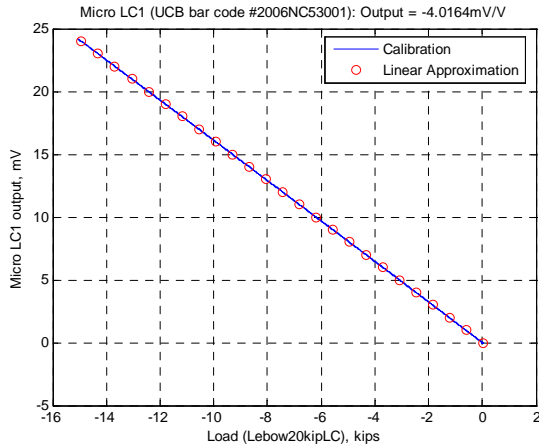


Fig. 1. Data reduction results for LC1.

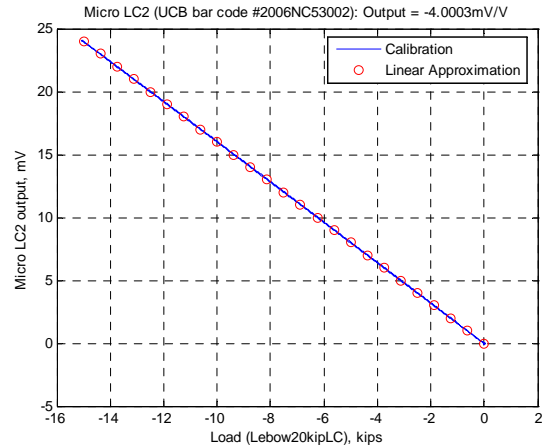


Fig. 2. Data reduction results for LC2.

Conducted by: S. Takhirov  
 Date: 03/17/06  
 Used: PI6000, Lebow 20Kip LC, 200K Baldwin-Southwark UTM

Additional calibration is conducted to estimate voltage output of the 15Kip LCs. The load cell is loaded in 200K Baldwin-Southwark UTM and load is measured by Lebow 3336 20Kip load cell connected to Pacific PI6000. The voltage output of the microLC is also recorded by the PI-6000. The two plots in Fig. 1 and Fig. 2 show the final results produced by the calibration tests. The output voltage per rated capacity (15Kip) is estimated as 4.0164 mV/V for LC1 and 4.0003 mV/V for LC2. The nonlinearity error in percent of full scale (15Kip) does not exceed 0.2% for both LCs as shown in Fig. 3. Matlab is used for data reduction.

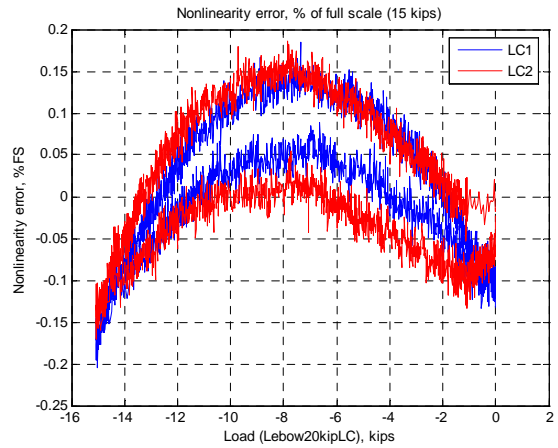


Fig. 3. Nonlinearity error for both LCs.