

# Loadcells Tiedowns Calibration Form

NAIC AO, Iquintero, ocolon, wiguina, 15 Nov 2019  
 from: [http://www.naic.edu/~phil/td/ldcell\\_calibration\\_form.html](http://www.naic.edu/~phil/td/ldcell_calibration_form.html)

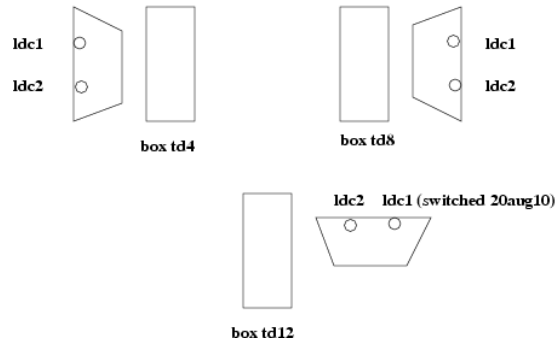
Loadcell Tiedown – Position	T12 – LC1		T12 – LC2		T4 – LC1		T4 – LC2		T8 – LC1		T8 – LC2							
<b>LOADCELL PARAMETERS</b>																		
Loadcell Serial Number	263010		90409		90410		263011		263012		253850							
Compression @ 80kips increment (mV/V)	1.0033		N/A		N/A		1.0463		0.9734		1.0352							
Compression @ 80kips decrement (mV/V)	1.0039		N/A		N/A		1.0503		0.9773		1.0368							
Compression @ 80kips average (mV/V)	1.0036		1.0413		1.0119		1.0483		0.97535		1.036							
Shunt Cal. @ 87.325kOhm – Load (%)	49.79		N/A		N/A		48.25		51.34		48.41							
Shunt Cal. @ 87.325kOhm – Load (kips)	79.66567		77.9328		80.5632		77.20452		82.14524		77.44984							
ON-OFF Volt. Expected (V)	2.431		2.378		2.459		2.356		2.507		2.364							
ON-OFF Counts expected	3983.3		3896.6		4028.2		3860.2		4107.3		3872.5							
		pre	post		pre	post		pre	post		pre	post		pre	post		pre	post
<b>MEASUREMENTS / DATE</b>	06/20/19		11/15/19	06/20/19		11/15/19	06/20/19		11/15/19	06/20/19		11/15/19	06/20/19		11/15/19	06/20/19		11/15/19
Ex+ to Sig- / Brown-Red (Ohm)	267.6		264.6	267.5		264.5	298.5		263.5	266.3		263.9	267.2		263.9	267.9		264.2
Ex+ to Sig+ / Brown-Orange (Ohm)	267.1		264.0	267.2		264.0	266.4		263.0	266.8		264.8	267.0		263.9	268.0		264.3
Ex- to Sig- / Yellow-Red (Ohm)	268.5		265.5	267.2		264.3	315.0		264.6	266.3		264.8	267.1		264.1	266.9		263.9
Ex- to Sig+ / Yellow-Orange (Ohm)	267.5		234.4	285.0		263.9	285.0		264.7	266.5		264.7	267.0		264.0	267.1		265.0
Excitation Volt. / Brown-Yellow (V)	10.00	10.00	10.00	9.99	10.00	10.00	9.98	9.98	9.98	9.98	9.98	9.98	9.99	9.99	9.99	9.99	9.99	9.99
Cal OFF Volts(V)	0.004	-0.052	0.000	0.003	0.029	0.001	0.003	0.249	0.001	0.003	-0.114	0.001	0.003	-0.013	0.001	0.004	-0.039	0.001
Cal ON Volts (V)	2.430	2.251	2.431	2.378	2.277	2.378	2.459	2.712	2.459	2.356	2.239	2.356	2.507	2.483	2.507	2.364	2.325	2.364
Cal ON tension (kips)	78.30	72.50	78.29	74.90	72.61	75.90	79.15	65.70	60.58	76.00	72.16	75.91	80.49	79.96	80.65	75.70	74.15	75.41
<b>CALCULATIONS</b>																		
ON-OFF volts error (V)	2.426	2.303	2.431	2.375	2.248	2.377	2.456	2.463	2.458	2.353	2.353	2.355	2.504	2.496	2.506	2.360	2.364	2.363
ON-OFF volts error (%)	0.21	5.27	0.01	0.14	5.48	0.06	0.11	0.18	0.02	0.13	0.13	0.05	0.11	0.43	0.03	0.15	0.02	0.02
Cal error (%)	1.71	8.99	1.73	3.89	6.83	2.61	1.75	18.45	24.80	1.56	6.53	1.68	2.02	2.66	1.82	2.26	4.26	2.63

**NOTES:**

1kips = 1000lb

Parameter	Value	Units
Criteria: 1 count per 0.02kips	0.02	kips/cnt
Counts per 1 kips	50	cnt/kips
Full Range ADC Volts	2.5	V
Full Range ADC Counts	4096	Counts
Volts per kips ratio	0.030518	V/kips
kips at full ADC Counts	81.92	kips

**Load cell naming conventions**



Loadcell Signal	Cable Color
Ex+	Brown
Ex-	Yellow
Sig+	Orange
Sig-	Red
Tiedown	Azimuth Position
12	360°
4	120° or 480°
8	240° or 600°