LGP 380/382 INSTALLATION INFORMATION

1. LGP 380 / 382 Load Cells must be mounted on a surface that is flat and rigid enough so as not to deform appreciably under load. An easy way to obtain the flat rigid surface is by using a Cooper supplied base or mounting plate. Where this is not practical, a rigid surface equivalent to the appropriate base or mounting plate will suffice. Cooper load cells respond to forces in the axis perpendicular to the mounting surface. Load cell response to a non-axial force is proportional to that force times the cosine of the angle it makes with the loading axis.

2. When installing these load cells without factory-installed base or bottom plate, the Grade 8 cap screws holding the cell to the mounting plate must be tightened to the value shown in Table 3 or 4 on Page 2.

3. For the best performance of LGP 380 and 382 Load Cells, the use of jam nuts is recommended. The jam nuts should be installed and torqued as indicated in Table 3 below.

4. Rod end bearings, or threaded adapters, should have smooth threads and class 3 fit*. They should be installed hand tight and backed off 1 turn prior to tightening jam nut as indicated in Table 3 below.

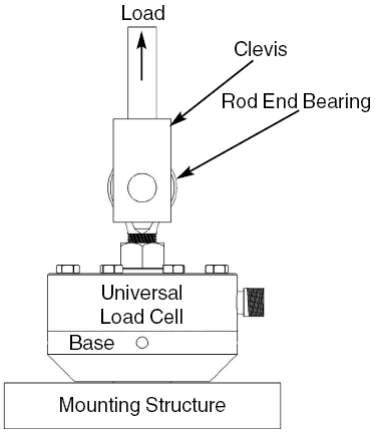
5. Bearing Plates should be hardened steel (Rc 45 or higher) when mating with a load button or steel load cells. For aluminum compression-only load cells, a mild steel bearing plate may be used.

6. To eliminate potential reading errors, the outer rim or base of the load cell and its connecting electrical cable should be mounted on the fixed or non-moving structure.

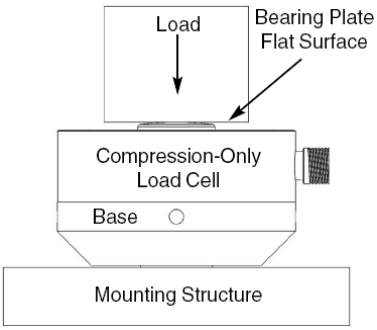
*Class 6g Metric.

TYPICAL INSTALLATIONS

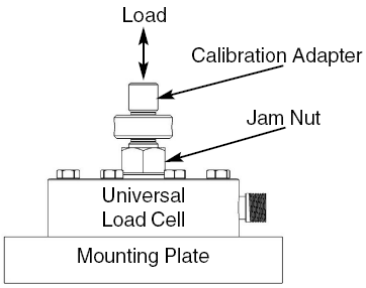
TENSION

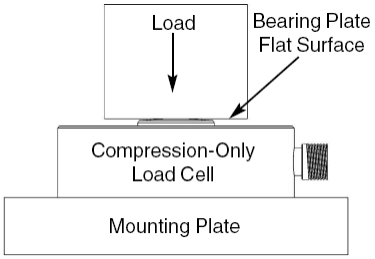


COMPRESSION

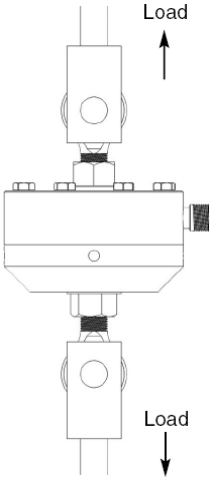


INSTALLATION ON IRREGULAR SURFACE USING COOPER-SUPPLIED BASE

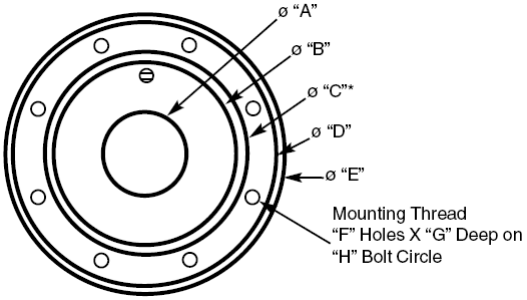




ROD END MOUNTING



INSTALLATION ON FLAT PLATE PER TABLE BELOW, PERPENDICULAR TO LOAD AXIS WITHIN 1 DEGREE. FLEXURE MOUNTING SCREWS TO BE TIGHTENED TO THE VALUE SHOWN IN THE TORQUE CHART.



1. Bases are heat-treated to a Rockwell hardness of 30-33.
2. Mounting surface should be perpendicular to the load axis within 1 degree.
3. Mounting screws should be Grade 8 (10.9) or better.
4. Torque, lightly lubricated, mounting screws per Table 3 or 4 below.
5. Inner and outer rings identify the critical area over which the flatness specification applies.

Table 1 – Base or Mounting Plate Dimensions for LGP 380

		Inner Mounting Ring		Outer Mounting Ring		Mounting Threads				Mtg Surface Flatness
Capacity	Hub Diameter "A"	"B"	"C"	"D"	"E"	Thread	"F"	"G"	"H"	
300 – 10K	1.34	2.87	3.14	3.98	4.13	1/4-28	8	0.30	3.500	0.0002
25K – 50K	2.65	3.99	4.54	5.84	6.06	3/8-24	12	0.63	5.125	0.0002
100K	3.76	5.47	5.75	7.80	8.00	1/2-20	16	1.00	6.500	0.0002
200K	4.81	6.76	7.42	10.58	11.00	5/8-18	16	1.12	9.000	0.0002

Table 2 - Base or Mounting Plate Dimensions for LGP 382

		Inner Mounting Ring		Outer Mounting Ring		Mounting Threads				Mtg Surface Flatness
Capacity	Hub Diameter "A"	"B"	"C"	"D"	"E"	Thread	"F"	"G"	"H"	
1K – 10K	1.34	2.87	3.14	3.98	4.13	1/4-28	8	0.30	3.500	0.0002
25K – 50K	2.65	3.99	4.54	5.84	6.06	3/8-24	12	0.63	5.125	0.0002

Table 3 – Mounting Parameters for LGP 380

Capacity		Mounting Screw Size		Mounting Screw Torque		Thread Adapter Torque		Max. Hub Torque	
US (lbf)	Metric (kN)	Fractional	Metric	(lb-ft)	(Nm)	(lb-ft)	(Nm)	(lb-ft)	(Nm)
300	1.5	1/4-28 UNF X 1.50	M6 X 40mm	5	7	10	14	10	14
250, 500	1.25, 250	1/4-28 UNF X 1.50	M6 X 40mm	5	7	15	20	16	20
500, 1K	2.5, 5	1/4-28 UNF X 1.50	M6 X 40mm	5	7	25	34	32	43
1K, 2K	5, 10	1/4-28 UNF X 1.50	M6 X 40mm	5	7	50	68	65	88
2.5K, 5K	12.5, 25	1/4-28 UNF X 1.50	M6 X 40mm	10	14	100	136	165	224
5K, 10K	25, 50	1/4-28 UNF X 1.50	M6 X 40mm	10	14	100	136	330	445
12.5K, 25K	50, 100	3/8-24 UNF X 2.25	M10 X 60mm	55	75	Pull thread adapter to 110-140 % of capacity and tighten jam nut		830	1130
25K, 50K	125, 250	3/8-24 UNF X 2.25	M10 X 60mm	55	75			1660	2250
50K, 100K	225, 450	1/2-20 X 3.00	M12 X 75mm	120	160			3320	4500
100K, 200K	450, 900	5/8-18 UNF X 4.00	M16 X 100 mm	250	340			6640	9000

Table 4 – Mounting Parameters for LGP 382 Compression-Only

Capacity		Mounting Screw Size (Socket Head Cap Screw)	Mounting Screw Torque	
US (lbf)	Metric (kN)		(lb-ft)	(Nm)
1K, 2K	5, 10	1/4-28 UNF X 1.25	5	7
5K, 10K	25, 50	1/4-28 UNF X 1.25	10	14
25K, 50K	125, 250	3/8-24 UNF X 1.75	55	75