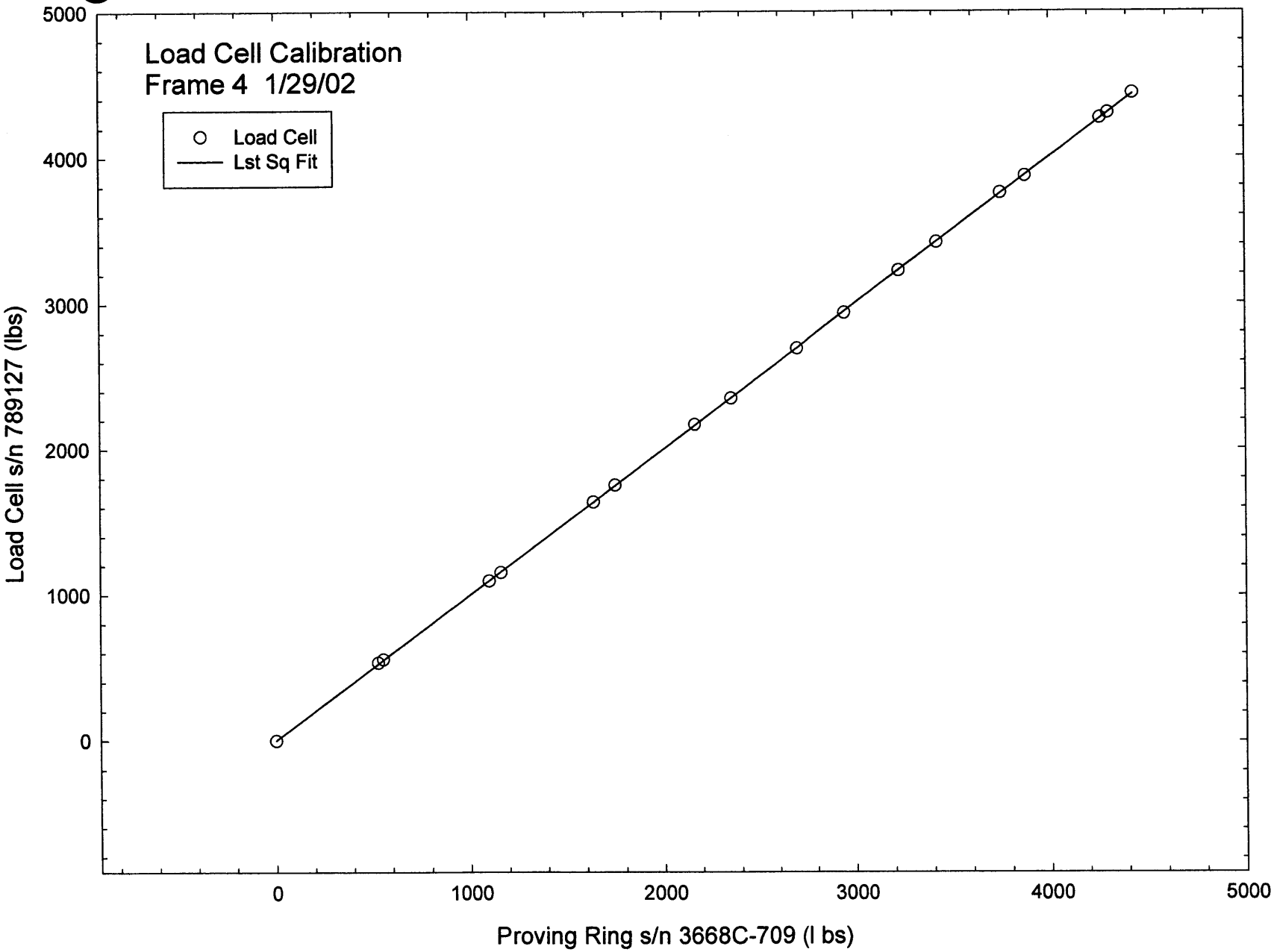
LOAD CELL CALIBRATION

Frame No.: 4 Date: 1/29/02

Load Cell S/N: 789197

Proving Ring S/N: 3668C-709

Load	Ring	Meter	Computer	Table
0	3.5	0	0	0
600	48.2 (44.7)	537	536	527.47
1200	96.6 (93.1)	1099	1098	1099.14
1800	142.0 (138.5)	1638	1636	1636.54
2400	186.2 (182.7)	2168	2166	2161.43
3000	231.0 (227.5)	2692	2691	2694.19
3600	275.6 (272.1)	3221	3220	3226.17
4200	319.3 (315.8)	3757	3750	3748.31
4800	362.3 (358.8)	4266	4265	4263.6
5000	376.3 (372.8)	4436	4436	4431.38
4800	365.5 (362.2)	4300	4300	4304.22
4200	329.8 (326.5)	3868	3868	3876.29
3600	291.7 (288.4)	3414	3414	3420.82
3000	251.8 (248.5)	2934	2932	2944.82
2400	202.0 (198.7)	2349	2348	2351.57
1800	151.2 (147.9)	1754	1751	1748.47
1200	101.5 (98.2)	1157	1156	1159.44
600	50.2 (46.9	560	560	553.47
0	3.3 (	1.5	1	0


Load Cell Calibration
Frame 4 1/29/02
Load Cell
Lst Sq Fit
Load Cell s/n 789127 (lbs)
Proving Ring s/n 3668C-709 (l bs)
5000
4000
3000
2000
1000
0
0
1000
2000
3000
4000
5000

Nonlinear Regression

[Variables]
x = col(1)
y = col(2)
'Automatic Initial Parameter Estimate Functions
F(q)=ape(x,y,1,0,1)
[Parameters]
y0 = F(0)[1] "Auto {{previous: 3.22767}}
a = F(0)[2] "Auto {{previous: 0.998569}}
[Equation]
f=y0+a*x
fit f to y
[Constraints]
[Options]
tolerance=0.000100
stepsize=100
iterations=100

R = 0.99999425 Rsqr = 0.99998850 Adj Rsqr = 0.99998782

Standard Error of Estimate = 5.1917

	Coefficient	**Std. Error**	**t**	**P**
y0	3.2277	2.2496	1.4348	0.1695
a	0.9986	0.0008	1215.7677	<0.0001

Analysis of Variance:

	DF	**SS**	**MS**	**F**	**P**
Regression	1	39839536.2401	39839536.2401	1478091.0255	<0.0001
Residual	17	458.2073	26.9534		
Total	18	39839994.4474	2213333.0249		

PRESS = 572.5601

Durbin-Watson Statistic = 1.7101

Normality Test: Passed (P = 0.1048)

Constant Variance Test: Passed (P = 0.2130)

Power of performed test with alpha = 0.0500: 1.0000

Regression Diagnostics:

Row	**Predicted**	**Residual**	**Std. Res.**	**Stud. Res.**	**Stud. Del. Res.**
1	3.2277	-3.2277	-0.6217	-0.6898	-0.6788
2	529.9431	7.0569	1.3593	1.4601	1.5147
3	1100.7953	-1.7953	-0.3458	-0.3625	-0.3531
4	1637.4265	0.5735	0.1105	0.1142	0.1108
5	2161.5656	6.4344	1.2394	1.2738	1.2993
6	2693.5634	-1.5634	-0.3011	-0.3100	-0.3016
7	3224.7824	-3.7824	-0.7286	-0.7567	-0.7468
8	3746.1755	4.8245	0.9293	0.9814	0.9803
9	4260.7283	5.2717	1.0154	1.0993	1.1066
10	4428.2683	7.7317	1.4893	1.6286	1.7199
11	4301.2902	-1.2902	-0.2485	-0.2697	-0.2622
12	3873.9724	-5.9724	-1.1504	-1.2214	-1.2407

13	3419.1540	-5.1540	-0.9927	-1.0366	-1.0390
14	2943.8349	-9.8349	-1.8944	-1.9563	-2.1560
15	2351.4336	-2.4336	-0.4687	-0.4816	-0.4704
16	1749.1964	4.8036	0.9253	0.9548	0.9522
17	1161.0090	-4.0090	-0.7722	-0.8080	-0.7993
18	555.9059	4.0941	0.7886	0.8460	0.8386
19	3.2277	-1.7277	-0.3328	-0.3692	-0.3597

Influence Diagnostics:

Row	Cook'sDist	Leverage	DFFITS
1	0.0550	0.1878	-0.3264
2	0.1641	0.1334	0.5942
3	0.0065	0.0902	-0.1111
4	0.0004	0.0644	0.0291
5	0.0457	0.0533	0.3083
6	0.0029	0.0561	-0.0735
7	0.0226	0.0730	-0.2096
8	0.0556	0.1034	0.3330
9	0.1040	0.1468	0.4591
10	0.2599	0.1638	0.7613
11	0.0065	0.1508	-0.1105
12	0.0950	0.1130	-0.4428
13	0.0485	0.0828	-0.3121
14	0.1271	0.0623	-0.5557
15	0.0064	0.0527	-0.1109
16	0.0296	0.0609	0.2425
17	0.0309	0.0865	-0.2460
18	0.0540	0.1311	0.3257
19	0.0158	0.1878	-0.1729

95% Confidence:

Row	Predicted	Regr. 5%	Regr. 95%	Pop. 5%	Pop. 95%
1	3.2277	-1.5186	7.9739	-8.7099	15.1652
2	529.9431	525.9429	533.9433	518.2821	541.6041
3	1100.7953	1097.5064	1104.0841	1089.3587	1112.2318
4	1637.4265	1634.6459	1640.2071	1626.1256	1648.7274
5	2161.5656	2159.0371	2164.0941	2150.3241	2172.8071
6	2693.5634	2690.9698	2696.1571	2682.3071	2704.8198
7	3224.7824	3221.8225	3227.7424	3213.4361	3236.1288
8	3746.1755	3742.6526	3749.6983	3734.6694	3757.6815
9	4260.7283	4256.5310	4264.9256	4248.9982	4272.4584
10	4428.2683	4423.8347	4432.7018	4416.4516	4440.0850
11	4301.2902	4297.0363	4305.5441	4289.5397	4313.0407
12	3873.9724	3870.2907	3877.6541	3862.4167	3885.5280
13	3419.1540	3416.0027	3422.3052	3407.7562	3430.5517
14	2943.8349	2941.1011	2946.5687	2932.5454	2955.1244
15	2351.4336	2348.9202	2353.9470	2340.1955	2362.6717
16	1749.1964	1746.4931	1751.8996	1737.9143	1760.4785
17	1161.0090	1157.7866	1164.2314	1149.5914	1172.4266
18	555.9059	551.9406	559.8712	544.2568	567.5550
19	3.2277	-1.5186	7.9739	-8.7099	15.1652

LVDT Calibrations 1/29/02
Calibration Gage Blocks: Pratt & Whitney
Last Cal:1/7/02 Next Cal: 1/7/03

Frame 1 s/n: L0078801

Gage Id	Value (in)	Computer Reading(in x 100) 1	2	3	Average (in)	Change (in)	Error (in)	Error (%)
-----	0	99.60	99.61	99.59	0.9960	0.0000	0.0000	0.0000
X369A	0.0625	93.23	93.26	93.31	0.9327	0.0633	0.0008	1.3333
Y242A	0.1250	86.83	86.87	86.86	0.8685	0.1275	0.0025	1.9733
Y455A	0.2501	74.02	74.08	74.06	0.7405	0.2555	0.0054	2.1458
Y649A	0.5002	48.86	48.84	48.86	0.4885	0.5075	0.0073	1.4528
Y189B	1.0000	0.01	0.01	0.01	0.0001	0.9959	-0.0041	-0.4100

Frame 2 s/n: L0078900

Gage Id	Value (in)	Computer Reading(in x 100) 1	2	3	Average (in)	Change (in)	Error (in)	Error (%)
-----	0	99.84	99.87	99.86	0.9986	0.0000	0.0000	0.0000
X369A	0.0625	93.47	93.48	93.49	0.9348	0.0638	0.0013	2.0267
Y242A	0.1250	87.05	87.06	87.05	0.8705	0.1280	0.0030	2.4267
Y455A	0.2501	74.44	74.44	74.44	0.7444	0.2542	0.0041	1.6260
Y649A	0.5002	49.48	49.47	49.51	0.4949	0.5037	0.0035	0.6997
Y189B	1.0000	-0.01	-0.01	-0.01	-0.0001	0.9987	-0.0013	-0.1333

Frame 3 s/n:L2566300

Gage Id	Value (in)	Computer Reading(in x 100) 1	2	3	Average (in)	Change (in)	Error (in)	Error (%)
-----	0	99.66	99.67	99.67	0.9967	0.0000	0.0000	0.0000
X369A	0.0625	94.02	94.05	93.95	0.9401	0.0566	-0.0059	-9.4400
Y242A	0.1250	87.82	87.83	87.82	0.8782	0.1184	-0.0066	-5.2533
Y455A	0.2501	75.12	75.15	75.16	0.7514	0.2452	-0.0049	-1.9459
Y649A	0.5002	50.47	50.49	50.52	0.5049	0.4917	-0.0085	-1.6927
Y189B	1.0000	0.54	0.55	0.52	0.0054	0.9913	-0.0087	-0.8700

Frame 4 s/n:L2566600

Gage Id	Value (in)	Computer Reading(in x 100) 1	2	3	Average (in)	Change (in)	Error (in)	Error (%)
-----	0	99.60	99.63	99.63	0.9962	0.0000	0.0000	0.0000
X369A	0.0625	93.34	93.26	93.42	0.9334	0.0628	0.0003	0.4800
Y242A	0.1250	86.97	86.96	86.95	0.8696	0.1266	0.0016	1.2800
Y455A	0.2501	74.33	74.30	74.40	0.7434	0.2528	0.0027	1.0662
Y649A	0.5002	49.49	49.51	49.55	0.4952	0.5010	0.0008	0.1666
Y189B	1.0000	-0.01	-0.01	-0.01	-0.0001	0.9963	-0.0037	-0.3700

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Progam name: Program Number: 0

Date: 01/07/102 Time: 14:10 Page: 1

Description	Value	Tolerance
DISTANCE Plane (Feature # 1) to Point (Feature # 2)		1/16 RHW X379A
DISTANCE	0.0625	
DISTANCE Plane (Feature # 3) to Point (Feature # 4)		1/16 RHW X369A
DISTANCE	0.0625	
DISTANCE Plane (Feature # 5) to Point (Feature # 6)		.125 RHW Y242A
DISTANCE	0.1250	
DISTANCE Plane (Feature # 7) to Point (Feature # 8)		.250 RHW Y455A
DISTANCE	0.2501	
DISTANCE Plane (Feature # 9) to Point (Feature # 10)		.500 RHW 694A
DISTANCE	0.5002	
DISTANCE Plane (Feature # 11) to Point (Feature # 12)		1.000 RHW Y189B
DISTANCE	1.0000	

Bldg# 162
Temp. 70°
Humidity 30%
Small CMM X529

SwRI 24 QA JAN -7 2002