

ADVANCED MECHANICAL TECHNOLOGY INC.
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Multi-axis Force Transducer Calibration Data

Model: OR6-5-2000 Serial Number: 3143

Calibration Filed under 3143.2
Calibrated on: 09-26-2001 10:02:48

GENERAL USE (Sufficient for most applications)

Location of the center of the top plate relative
 to the effective XYZ center of the dynamometer.

xo = 1.270 yo = -0.471 zo = -41.991 [In millimeters]
xo = 0.050 yo = -0.019 zo = -1.653 [In inches]

The 'Sensitivities' (output/input) for each channel are:

| ----- Forces ----- | | | ----- Moments ----- | | |
|--------------------|--------------|-----------------|---------------------|---------------|----------------|
| | uV/Vex/N | uV/Vex/lb | | uV/Vex/N-m | uV/Vex/in-lb |
| Fx | .3484 | 1.549858 | Mx | .6453 | .072905 |
| Fy | .3425 | 1.523439 | My | .6523 | .073698 |
| Fz | .0876 | .389802 | Mz | 1.3480 | .152303 |

ADVANCED USE (Sensitivity Matrix Analysis) 3143

SI Units: SENSITIVITY MATRIX S(i, j)

Output of channel i (uV/Vex) is S(i,j) times the mechanical input j (N, N-m)

| j | Fx | Fy | Fz | Mx | My | Mz |
|-----|--------|--------|--------|--------|-------|--------|
| Vfx | .3484 | .0043 | .0023 | .0040 | .0071 | -.0011 |
| Vfy | -.0054 | .3425 | -.0005 | -.0062 | .0007 | -.0137 |
| Vfz | -.0009 | -.0007 | .0876 | -.0007 | .0010 | .0004 |
| Vmx | .0000 | .0003 | -.0003 | .6453 | .0008 | .0080 |
| Vmy | .0003 | -.0007 | -.0008 | -.0031 | .6523 | .0029 |
| Vmz | .0003 | .0020 | -.0001 | -.0062 | .0048 | 1.3480 |

SI Units: INVERTED SENSITIVITY MATRIX B(i, j)

Input to channel i (N, N-m) is B(i,j) times the electrical output j (uV/Vex)

| j | Vfx | Vfy | Vfz | Vmx | Vmy | Vmz |
|----|--------|--------|---------|--------|--------|--------|
| i | | | | | | |
| Fx | 2.8692 | -.0365 | -.0758 | -.0185 | -.0312 | .0021 |
| Fy | .0453 | 2.9190 | .0171 | .0281 | -.0041 | .0296 |
| Fz | .0295 | .0238 | 11.4102 | .0120 | -.0170 | -.0030 |
| Mx | -.0001 | -.0014 | .0053 | 1.5496 | -.0019 | -.0093 |
| My | -.0013 | .0033 | .0146 | .0074 | 1.5330 | -.0033 |
| Mz | -.0006 | -.0042 | .0008 | .0071 | -.0054 | .7417 |

USC Units: SENSITIVITY MATRIX S(i, j)

Output of channel i (uV/Vex) is S(i,j) times the mechanical input j (lb, in-lb)

| j | Fx | Fy | Fz | Mx | My | Mz |
|-----|--------|--------|--------|--------|-------|--------|
| i | | | | | | |
| Vfx | 1.5499 | .0193 | .0102 | .0005 | .0008 | -.0001 |
| Vfy | -.0240 | 1.5234 | -.0024 | -.0007 | .0001 | -.0015 |
| Vfz | -.0040 | -.0032 | .3898 | -.0001 | .0001 | .0000 |
| Vmx | .0001 | .0014 | -.0014 | .0729 | .0001 | .0009 |
| Vmy | .0014 | -.0032 | -.0037 | -.0004 | .0737 | .0003 |
| Vmz | .0012 | .0087 | -.0005 | -.0007 | .0005 | .1523 |

USC Units: INVERTED SENSITIVITY MATRIX B(i, j)

Input to channel i (lb, in-lb) is B(i,j) times the electrical output j (uV/Vex)

| j | Vfx | Vfy | Vfz | Vmx | Vmy | Vmz |
|----|--------|--------|--------|---------|---------|--------|
| i | | | | | | |
| Fx | .6451 | -.0082 | -.0170 | -.0042 | -.0070 | .0005 |
| Fy | .0102 | .6562 | .0038 | .0063 | -.0009 | .0066 |
| Fz | .0066 | .0053 | 2.5652 | .0027 | -.0038 | -.0007 |
| Mx | -.0009 | -.0123 | .0472 | 13.7156 | -.0166 | -.0820 |
| My | -.0119 | .0292 | .1289 | .0659 | 13.5690 | -.0293 |
| Mz | -.0058 | -.0375 | .0074 | .0630 | -.0479 | 6.5652 |