INSTRUCTION MANUAL
For Model 7264C Piezoresistive Accelerometer
IM7264C, Revision B

The Model 7264C is a low mass, miniature piezoresistive accelerometer. Because of its small size, certain precautions must be observed when handling and mounting the accelerometer to avoid damaging the unit.

Materials Required

All materials used in the mounting of the accelerometer are supplied with the unit in the shipping container. These materials include:

(1) Allen Wrench for 0 - 80 screws - Endevco P/N EHM35
(2) Size 0 flat washers - Endevco P/N EHW196
(2) 0 - 80 x 3/16 inch socket head cap screws - Endevco P/N EH828

Special Precautions

The following precautions should be observed when handling and mounting the accelerometer.

- CAUTION- Avoid dropping the accelerometer or striking the unit against hard surfaces. Keep the protective sleeve that is supplied with the unit, on until the unit is installed.

- CAUTION- When mounting the unit, do not over torque the screws. The specified mounting torque of 2.6 in-lbf (0.29 N-m) recommended, 3.0 in-lbf (0.34 N-m) maximum is easily achieved with the provided Allen wrench. Excessive torque may result in damage to the unit. Do not use snap type torque wrenches.

Check-out

Upon receipt of the accelerometer, it should be checked to insure proper operation. Three simple tests can be conducted without removing the unit from its shipping container and protective sleeve.

1. Impedance test - Open the accelerometer shipping box and unwind a few inches of cable. Leave the accelerometer in the container. Read the input impedance (Red to Black) and output impedance (Green to White) with an ohmmeter. Refer to the accelerometer Calibration Data Sheet to determine the proper value of impedance. The measured impedance should be within ±25% of this calibrated value.

2. Insulation Resistance- If the input and output impedance's are within acceptable limits, use a multimeter, ohmmeter or megohmmeter set at 50 volts maximum. Measure the insulation resistance between:

   a. all leads connected together and the cable shield
   b. all leads connected together and the transducer case
   c. cable shield and the transducer case

   All three readings should be 100 megohms minimum.

3. Zero measurand Output- After the impedance and insulation resistance tests, measure the output of the accelerometer with zero g acceleration. Turn the unit on its side so that the accelerometer mounting surface is perpendicular to the table top. Apply the specified excitation voltage to the accelerometer and measure its output with a DC millivolt meter. Allow the unit to warm-up for two minutes. The accelerometer should have a Zero Measurand Output (ZMO) within the data sheet specified limits.

If any of these initial checks do not give proper readings, indicating a possible malfunction, and the reason for the erroneous reading cannot be found, contact Endevco.

Mounting

When mounting or removing the accelerometer, it is essential to utilize proper techniques and tools. Correct torque is important to ensure correct mounting and performance.

1. The mounting surface should be clean and free of burrs. A recommended surface roughness is 32 microinch rms.

2. Do not cement the unit to the mounting structure. Use the supplied mounting washers and screws, as shown in Figure 1.

3. To facilitate easier screw installation, the mounting screws should be lightly lubricated with oil. Slide the flat washer over the screw.

4. Remove the unit from the protective sleeve. Without the protective sleeve, it is recommended that the unit be handled by the case, and not the cable. This is to prevent the unit from slapping the mounting surface during installation. Place the unit on the mounting surface and align the mounting holes.

5. Using the supplied Allen wrench, turn the screws into the mounting holes using the recommended torque of 3 lbf-in (0.3 Nm). This is roughly equivalent to finger tight with the supplied wrench. Installation of the unit with higher torque values, dry threads, or thread adhesives is not recommended as excessive torque will be required to break the screw loose when the accelerometer is dismounted.

6. As practical, tie down the cable within 2 to 3 inches (4 to 6 cm) of the unit. Whipping of the cable during vibration and shock will strain the cable unnecessarily at the unit.

7. Connect the unit to the signal conditioner and check for proper functioning through the use of standard techniques such as shunt calibration across the passive arms of the accelerometer.

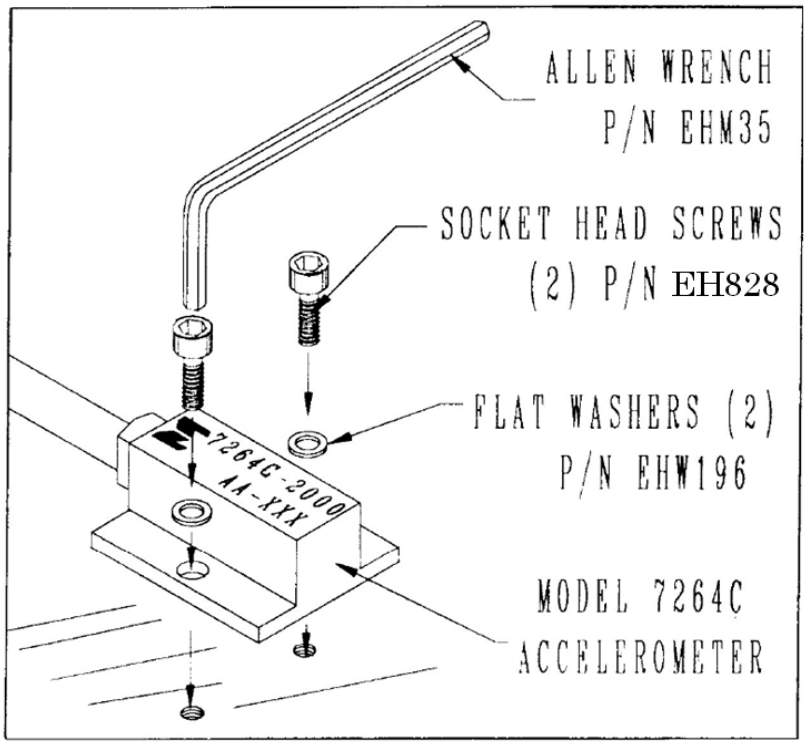


FIGURE 1 - Installation of Model 7264C Accelerometer

Recalibration

Sensitivity and ZMO calibration should be performed at 6 to 12 month intervals, depending on usage. Ordinarily, recalibration need be performed only at 12 month intervals if it is known that the accelerometer has not been used beyond its rated specifications. If the unit is used under severe environments, it may be desirable to use shorter calibration intervals.

Contact Endevco for local calibration facility information or return the unit to Endevco for calibration.

Dirty units may be wiped clean using a damp cloth and a solvent such as acetone. DO NOT SOAK OR IMMERSE the unit in any solvent or water. DO NOT USE any sharp tool such as a screwdriver to remove dirt or contaminants.

Questions

If you have any questions regarding the use of this or any Endevco accelerometer, please contact Endevco Application Engineering at 1-800-982-6732 in North America, or your local sales representative.