Project #1: Problem Statement:

A radial saw base has a mass of 73.16 kg and is driven by a motor. The motor runs at constant speed and produces a 13 N force at 1.80 m/min. The manufacturer wants a vibration absorber designed to drive the table oscillation to zero. Design the absorber assuming that the stiffness provided by the table legs is 2600 N/m. Absorber has a maximum deflection of 0.2 cm.



Student's names and registration numbers:



Project #2: Problem Statement:

A diesel engine, weighting 3000 N, is supported is mounted on a foundation as shown in Figure. The engine induces vibration through its foundation at an operating speed of 6000 rpm. Determine the parameters of the vibration absorber what will reduce the vibration when fixed on the foundation. The magnitude of the exciting force is 250 N, and the amplitude of motion of the absorber mass is limited to 2 mm.



Project #1: Problem Statement:

A pipe carrying steam through a section of a factory vibrates violently when the driving pump hits a speed of 232 rpm. In an attempt to design an absorber, a trial 1 kg absorber tuned to 232 rpm was attached. By changing the pump speed, it was found that the pipe-absorber system has a resonance at 198 rpm. Redesign the absorber so that the natural frequencies are less than 160 rpm and more than 320 rpm.



Student's names and registration numbers:

