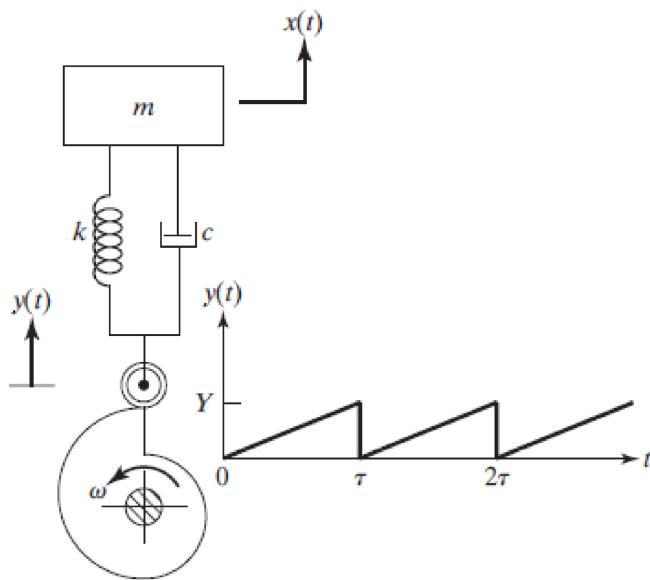
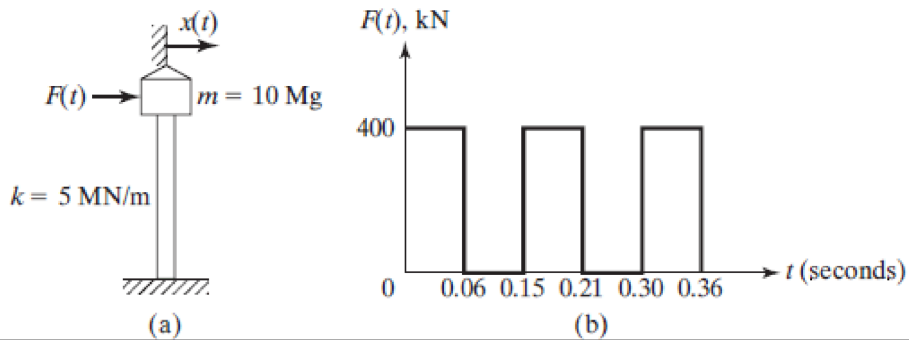


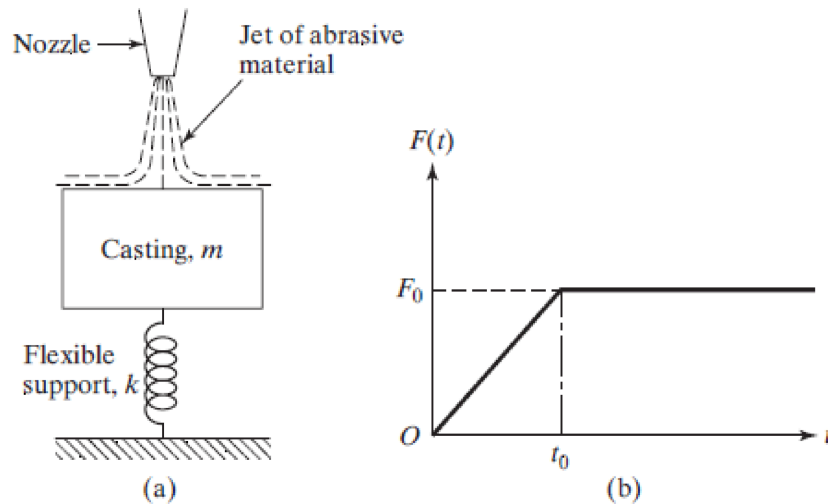
- 4.8 The base of a spring-mass-damper system is subjected to the periodic displacement shown in Fig. 4.39. Determine the response of the mass using the principle of superposition.



- 4.15 Find the displacement of the water tank shown in Fig. 4.43(a) under the periodic force shown in Fig. 4.43(b) by treating it as an undamped single-degree-of-freedom system. Use the numerical procedure described in Section 4.3.



- 4.16** Sandblasting is a process in which an abrasive material, entrained in a jet, is directed onto the surface of a casting to clean its surface. In a particular setup for sandblasting, the casting of mass m is placed on a flexible support of stiffness k as shown in Fig. 4.44(a). If the force exerted on the casting due to the sandblasting operation varies as shown in Fig. 4.44(b), find the response of the casting.



- 4.25** An automobile, having a mass of 1000 kg, runs over a road bump of the shape shown in Fig. 4.49. The speed of the automobile is 50 km/hr. If the undamped natural period of vibration in the vertical direction is 1.0 sec, find the response of the car by assuming it as a single-degree-of-freedom undamped system vibrating in the vertical direction.

