trations of lead dust. Filing, however, is not productive of small particles and is preferred over the use of power-driven tools.

If filing is not practicable, it will be necessary to provide some type of mechanical ventilation system for the solder removal operations involving the use of power tools. Since the permissible limit generally accepted for lead is 1.5 milligrams per 10 cubic meters of air (353 cubic feet) it will be necessary to have an effective system to provide adequate control. Engineers experienced in designing ventilation systems to control toxic materials should be consulted, otherwise a costly system might be erected and later found entirely ineffective.

Frequently solder removal operations require the use of portable tools on large objects and a local exhaust system would not be effective, as is the case in the fabrication of automobile bodies. General contamination of the factory with lead dust has been eliminated by enclosing the entire operation in a large booth and exhausting a sufficient quantity of air from the enclosure to insure a constant inward flow of air from the factory into the booth. Under these circumstances no practical amount of air could be removed from the booth to reduce the lead concentration to a safe level, and therefore it is necessary that the men working therein be provided with adequate personal protective devices.

Heat Treating

High temperatures are a frequent source of complaint from employees in heat treat departments but such conditions and their control are not within the subject under discussion.

Fumes from cyanide pots are often associated with cyanides used as fumigants or as the lethal agent in death chambers, and supervision as well as the employee becomes apprehensive. Fumes from such a source are irritating and because of this property should be adequately ventilated. The irritant nature of the fume is caused by alkali formed upon decomposition of the cyanide.

Molten lead is sometimes used as a hardening medium for metals. Frequently charcoal or some similar material is placed on the surface of the metal to conserve heat and prevent