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Know and understand the law - OSHA will soon be around

. . . asbestos is a danger to your employees

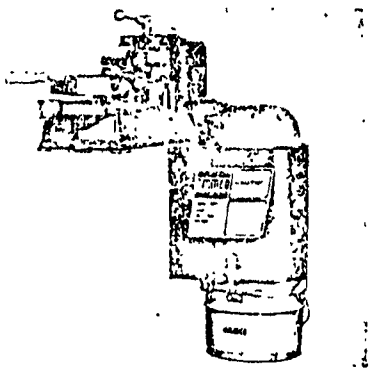
Last month, we introduced the proposed changes in the asbestos regulations and briefly outlined some of the standards your shop must meet to obey them. This month, we will take a closer look at some of the specific standards affecting your business, show how much danger is involved in handling asbestos and present some of the solutions parts and equipment manufacturers have developed.

When the 1974 asbestos inhalation law went into effect, most of the concern was for those employees involved in milling, fabrication and construction industries (the miners were under another law). Of the nearly one million tons of asbestos "consumed" in the United States in 1972, approximately 77% was used in the construction industry.

Use of the common sense NIOSH guidelines will mean greater shop safety and could help you pass OSHA industrial hygiene inspection.

However, further statistics reveal that only 500,000 workers are exposed to asbestos in mining, milling, fabrication and construction. Compare that number with the nearly *one million* American workers exposed to asbestos while installing and/or maintaining clutch and brake linings! A smaller percentage of the total asbestos is consumed but a larger percentage of America's work force is exposed.

A dust collection system designed for use with Ammco Tools, Inc.'s brake shoe grinders (Model 8925) efficiently collects, contains and disposes of asbestos dust ground off brake shoes, according to the company. No external power source is required, as a built-in suction fan pulls dust from the surface of the brake shoe and deposits it in a sealable disposable plastic bag. Once installed, the brake shoe grinder is said to meet or exceed Federal Clean Air Standards set by the OSHA Act of 1970.



But how serious is the exposure? A 1975 study done by Dr. W.J. Nicholson of Mt. Sinai Hospital detailed in a paper entitled "Asbestos Exposure During Brake Lining Maintenance and Repair" reveals some interesting statistics.

Before studies were undertaken, it was thought that the heat involved during the use of brakes caused a chemical breakdown, transforming the asbestos in the linings into a relatively harmless dust. The data presented in the paper indicates that workers engaged in car and truck brake service are exposed to potentially hazardous levels of airborne asbestos dust.

Specific brake servicing operations studied included blow-out of automobile brake assemblies, grinding of used truck brake linings and bevelling of new truck brake linings. Average peak asbestos air concentrations for these three activities based on personal samples taken within 10 feet of the operator were, respectively, 10.5, 3.75 and 37.3 fibers (greater than five microns in length) per cubic centimeter, up to 19 times worse than the recommended limit.

The study concluded that "during brake lining maintenance and repair, workmen in garages, service stations and brake repair shops are exposed to asbestos and thus may be subject to serious cancer risk. Others, at some distance from the repair work, (including those who are within 75 feet) are perhaps subject to the same hazard."

This study, and others that have been undertaken, has established in the scientific community a basis for studying the extent of asbestos-related disease in brake servicing personnel. A recent review of scientific literature, quoted in an ASIA news bulletin, states that "the association between asbestos exposure and [tumors of the chest and abdominal membranes] has revealed at least four cases of these rare tumors in persons who were employed in jobs involving automobile brake servicing." (Researchers have just begun to pinpoint this industry. Other related cases are expected to be found.)

Now that the scientific community and the federal government are convinced of the risk involved in brake servicing, it is time for the individual shop owner to comply with the standards established by the Dept. of HEW and stated in the Airborne Asbestos regulations.

The law states that airborne asbestos fibers must be below a certain count per cubic centimeter. Specifically, the Federal Register states "The 8-hour time-weighted average airborne concentrations of asbestos fibers to which any employee may be exposed shall not exceed two fibers, longer than five micron, per cubic centimeter of air."

The measurement is done by using a membrane filter method with an electronic microscope costing between $500-$1,000. Obviously, this is too costly for most brake shops. Some insurance companies will undertake this measurement for their accounts, providing the insurance company has an industrial hygiene division. Also, some state OSHA offices will help.

Regardless who does it, the employer is responsible for taking the measurement. An explanation of the membrane filter method (which is the only acceptable method according to OSHA) can be found in the Asbestos Information

The Brake-O-Vac brake assembly cleaner has been redesigned by Per-Lux, Inc., to meet OSHA requirements by attaching the unit to an approved shop vacuum. When attached to a standard air hose, dust, asbestos and other foreign matter can be vacuumed off brake assemblies in seconds. Automatic or manual models, plus quick-change adapters from 9 in. to 12 in., are available.



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Association's "Recommended Work Practices: Fabrication and Use of Asbestos Friction Materials." It takes 11 complicated pages to explain the procedure.

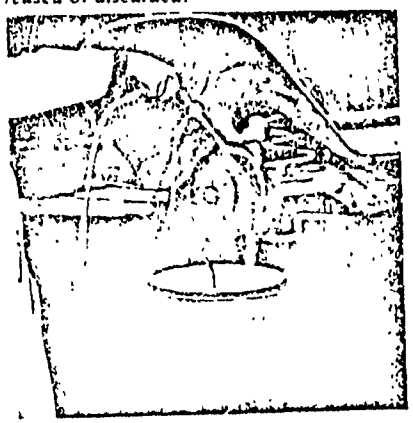
A toll-free call to OSHA's Chicago office revealed that the industrial hygiene inspectors will look favorably on indications of voluntary compliance. (The Chicago office is quite willing to answer any questions on this and any other OSHA regulations. The toll-free number is: 1-800-621-0523).

The National Institute for Occupational Safety and Health has suggested the following procedures for asbestos brake and clutch servicing in order to reduce exposures:

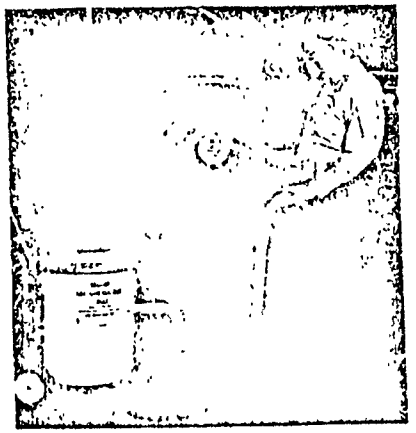
- If possible, an area should be designated for all brake and clutch repairs. Entrances should be posted with warning sign saying: "Asbestos dust hazard. Avoid breathing dust. Wear assigned protective equipment. Do not remain in area unless your work requires it. Breathing asbestos dust may cause asbestosis and cancer."
- During brake servicing, an air purifying respirator, either single use or with replaceable particulate filter(s), as approved by the Mining Enforcement and Safety Administration of NIOSH, will be worn during all procedures starting with the removal of the wheels and including reassembly. Such a respirator should also be worn during all clutch procedures from removal to installation of a new assembly.
- Dust should first be cleaned from brake drums, brake backing plates, brake assemblies and clutch assemblies using an industrial type vacuum cleaner equipped with a high efficiency filter system. After vacuum cleaning, any remaining dust shall be removed using a rag soaked in water and wrung until nearly dry. Under no circumstances should compressed air or dry brushing be used for cleaning.
- During arcing and riveting operations, respirator should also be worn. Grinding (arcing) machines should be provided with local exhaust ventilation such that worker exposures maintained at least below the 1976 asbestos standard.
- Industrial vacuum cleaner bags containing asbestos dust and cloths used for wiping brake and clutch assemblies should be sealed in plastic bags and labeled with the following warning label printed in letters of sufficient size and contrast to be readily visible and legible, "Caution, contains asbestos fibers. Avoid breathing dust. Breathing asbestos dust may cause asbestosis and cancer."
- All floor cleaning in areas where brakes and clutches are repaired should be done with a high efficiency industrial vacuum cleaner.
- Although adherance to the above procedures should minimize any contamination of work clothing, appropriate portions of the OSHA asbestos regulations concerning special clothing, change rooms, etc. should be followed.

Compliance to this law will mean not only a safer shop for your employees but it will mean a cleaner and neater shop. Also, be sure your employees understand the severity of this problem so that compliance procedures become standard operating methods in your shop.

Model 1250 brake assembly washer introduced by Ammco permits solvent washing of brake assemblies and eliminates the practice of air-blasting asbestos particles and dust around the shop. The specially designed gun, which requires shop air pressure, delivers a properly atomized stream of solvent without misting or waste. The solvent returns to the sump through the perforated parts pan for recirculation. As parts are removed from the brake assembly, they are allowed to drop into the perforated parts pan where they are retained until reused or discarded.



Tempo Products Co. offers this brake/clutch service vacuum (Model AB-7515) for dry recovery of asbestos fibers. The vacuum is equipped with a four-stage filtration system with secondary fail-safe protection that is said to assure maximum asbestos filter entrapment. Each unit includes complete instructions and all elements necessary for the safe collection and disposal of asbestos fibers. According to the manufacturer, it has been certified to comply with current regulations by an environmental laboratory when used as instructed.



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