

ASBESTOS IN BRAKE RELINING AND CLUTCH REPAIR

In 1985, New Jersey will have the strictest standards for safe levels of asbestos in public buildings of all the states in the nation.

The level recommended by Governor Kean's Asbestos Policy Committee is 0.003 fibers per c.c. of air. The recommended level for schools in New Jersey during the past two years was 0.1 fibers per c.c. of air.

DOES IT MAKE ANY SENSE THEN TO EXPOSE OUR MECHANICS TO LEVELS AS HIGH AS 3.6 TO 29.8 FIBERS PER C.C. (29.8 MILLION FIBERS PER CUBIC METER) OF AIR IN VEHICLE MAINTENANCE GARAGES?

Of course, the answer is NO! A Mt. Sinai Medical Center research study, "Asbestos Exposure During Brake Lining Maintenance and Repair" (December, 1975), confirmed that FREE ASBESTOS FIBERS ARE PRESENT IN DECOMPOSED LINING DUST. Virtually all these fibers are small enough to be inhaled although they are invisible to the naked eye. The report stated "Free asbestos fibers present in the decomposed lining dust were sized at 42,000 X magnification. The

results...show that most fibers are too small to be seen by optical microscopy: almost all of them are shorter than 0.4 μm (micron = 1/25,000 inch) in length; virtually all are of respirable size ($< 5 \mu\text{m}$)". Most, if not all, of these fibers would not have been counted using the optical microscope counting technique upon which the above standards were based and yet they constitute a substantial health hazard. Present O.S.H.A. Permissible Exposure Limits (based on the optical microscopy counting technique) are 2.0 fibers/c.c. of air. Most knowledgeable observers expect that O.S.H.A. will soon reduce the P.E.L. to 0.5 or 0.2 fibers /c.c. of air.

The Mt. Sinai report stated "....extremely high concentrations of submicroscopic fibers are present up to 65 feet away from brake repair work, even though fiber levels in such a case are barely detected, if at all, by the standard optical counting technique. These limited data indicate that the standard O.S.H.A. optical fiber counting method may be only a fractional indicator of total asbestos exposure, at least in the case of automotive repair work ". These data reflect exposure levels to asbestos fibers during a brake cleaning operation using compressed air to clean the drum. Today, almost ten years after this health hazard was confirmed, many mechanics continue to use this dangerous cleaning method.

In some facilities brake dust is carefully brushed from the backing plate and brake shoes or a vacuum cleaner is used to collect the dust. In either case a significant health hazard exists. The Mt. Sinai study commented on the use of dry brush cleaning as follows: "In a single instance, brake drum cleaning was not done with a compressed air jet, but with a dry hand brush. Fiber concentrations were somewhat less (2.5 fibers/ml.) at the operator level, but background levels 12 feet away were the same as with air jet cleaning".

There are no published studies on the exposure levels resulting from the use of a conventional vacuum cleaner. Asbestos researchers and experts in the field of occupational health and safety are, however, in complete agreement that asbestos fibers will pass through conventional vacuum cleaner filters to be reentrained in the air and subsequently inhaled. There is every reason to suspect that exposure levels during this procedure are extremely unsafe.

Obviously, cleaning automotive brakes constitutes a potential health hazard, not only for the professional mechanic or automotive shop student, but for all those persons who are in the area. Clearly, it's not enough to remove friable asbestos from ceilings, walls and pipes

in our buildings and schools. We must insist that our vehicle maintenance garages and school automotive shop classes are equipped with specially designed equipment to totally enclose the brake assembly during the cleaning procedure. This equipment must filter asbestos particles from the air using state-of-the-art High Efficiency Particulate Air (H.E.P.A.) filtration and the workers and students must be adequately trained to use it correctly.

THE TRAGEDY OF ASBESTOS-CAUSED ILLNESS MUST COME TO AN END.

THE ONLY SOLUTION IS TO PREVENT IT.

Footnote: The State of Maryland has become the first state to require that state employees engaged in automotive brake repair use special enclosure devices and vacuum equipment to contain and collect asbestos-ridden dust. Maryland also requires that these workers attend a one-day workshop to be trained in asbestos health effects, safety equipment and correct workplace procedures to eliminate the hazard of asbestos.

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