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Inter Office

Car Product Development Group

November 15, 1977

To: C. R. Barbour

cc: G. S. Amber
P. E. Toth

Subject: Health Hazards Relating to Brake Lining Repair

In August 1973 the attached letter was directed to General Services Garage areas informing them of procedures in minimizing airborne asbestos in vehicle brake rebuilding and inspection operations. A study concerning asbestos exposure of garage mechanics during brake lining maintenance, conducted by Mt. Sinai School of Medicine in 1975, concluded that airborne fiber concentrations frequently exceeded the current regulated limits. It was found that asbestos fibers blown into the atmosphere by air blasts used to clean brake parts was the major contributor, and that areas remote from the actual cleaning contained unacceptable asbestos levels. These findings convinced NIOSH (National Institute for Occupational Safety and Health) to recently award a $180,060 contract to Mt. Sinai to determine the health hazards associated with exposure to asbestos in these operations. Concurrently a $84,522 contract was let to Texas A&M Research Foundation to determine and document the collection efficiency of industrial vacuum units and techniques for disposal of asbestos waste in brake and clutch servicing industries.

In view of the previous results and the ongoing studies, and previous Ford action in this area (see Maintenance Bulletin 137 attached) garage areas within Car Engineering are reminded that the exposure of employees to airborne asbestos should be limited by restricting the use or location of air blast cleaning of brake parts or assemblies. In addition, all garage areas are to plan for complete elimination of this practice and replacement by vacuum or other methods to eliminate airborne asbestos hazards. Future developments relating to the study will be transmitted upon receipt to all affected operations.

W. A. Goering

W. A. Goering

Attachments:

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HORN V FORD
24-04-20 1.13 - 0070

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
CENTER FOR DISEASE CONTROL

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
5600 FISHERS LANE
ROCKVILLE, MARYLAND 20852

August 8, 1975

Dear Colleague:

This communication is intended to alert you to recently gathered information indicating a potential health hazard for persons exposed to asbestos during the servicing of motor vehicle brake and clutch assemblies.

On July 21, 1975, the National Institite for Occupational Safety and Health convened a meeting of government and university scientists, industry representatives, and labor union officials to discuss the present state of knowledge with respect to this problem. Data was presented by investigators from the Mount Siani School of Medicine in New York City indicating that workers engaged in the maintenance and repair of automobile and truck brake linings are exposed to potentially hazardous levels of airborne asbestos dust. Specific brake servicing operations studied included blow-out of automobile drum 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 ten feet of the operator were, respectively, 10.5, 3.75, and 37.3 fibers (>5 microns in length) per ml. An analysis of samples of brake drum dust revealed that almost all of the asbestos fibers found were shorter than 0.4 microns in length.

Previous studies of the extent of asbestos emissions from automobile brake lining wear showed that only a very small fraction of the original asbestos content of the brake lining is found in brake drum dust (Ref. 1-3). It was presumed that this is due to thermal degradation of the fibers during braking. The present findings indicate that enough asbestos is preserved to produce significant exposures during certain brake servicing procedures.

The full extent of asbestos-related disease in brake servicing personnel is not known at present because this particular occupational group has not been studied systematically up to now. However, a review of the scientific literature on the association between asbestos exposure and mesothelial tumors of the pleura and peritoneum has revealed at least [illegible] cases of these rare tumors in persons who were employed in jobs involving automobile brake servicing (Ref. 4-6).

For your information and guidance, we are enclosing pertinent references, estimates of the population at risk, a NIOSH interim recommendation for brake and clutch servicing procedures, and a copy of the Department of Labor standard covering exposure to asbestos in the work place.

The environmental studies of brake lining servicing operations outlined above together with observations of mesothelial tumors in persons so employed affirms the necessity for instituting and maintaining recommended control measures in this industry so that the health hazards of asbestos are minimized.

Sincerely yours,

J. William Lloyd, Sc.D.
Director
Office of Occupational Health
Surveillance and Biometrics

Enclosures

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