



Inter Office

Car Product Development Group

November 15, 1977

To: G. 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 concentration 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 \$64,522 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. Boering
W. A. Boering

Attachments:

PLAINTIFF'S
EXHIBIT
WV-06378

PLAINTIFF'S
EXHIBIT

317450

COATES

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Inter Office

Personnel and Organization Staff

August 3, 1973

To Messrs. L. H. Albrant
J. H. Barton
C. E. Brace
R. D. Byrom
A. W. Carpenter
J. C. Childers
C. E. Deibert
D. B. Dishon

N. S. Green
W. L. Hall
J. A. Keller
T. L. Kopke
F. C. Manning
R. J. Manthey
W. J. Piccolo
C. M. Wareham

Subject: Vehicle Brake Rebuilding

Recent industrial hygiene studies have demonstrated overexposure to asbestos fiber in air during certain vehicle brake rebuilding and inspection operations. Overexposure occurred when brakes and brake drums were cleaned using compressed air blowoff. In order to preclude overexposure to asbestos fiber in air, the following procedure is recommended:

- Vehicle brakes and brake drums shall be cleaned using an industrial type vacuum cleaner with a filtering system efficient to a three micron particle size. Under no circumstances shall compressed air blowoff be used to clean brakes and brake drums.
- Disposal of asbestos laden dust from the vacuum shall be done by wet methods of dust suppression or the employee performing the operation shall use a respirator specified by the U.S. Bureau of Mines for pneumoconiosis producing dust under approvals 21C and Schedule 21. Approval 21C specifies single use respirators approved for pneumoconiosis producing dusts.
- Disposal of asbestos laden waste from the vacuum cleaner shall be in sealed containers labeled per subparagraph g and h, Federal Register 1910.93(a), pages 22143 and 22144 (OSHA).

Paul E. Toth

Paul E. Toth, Supervisor
Industrial Hygiene Section

cc: D. L. Block, M.D.
R. F. Birdcall
F. J. Dery
D. A. Groschaw
R. L. Wabeke

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- 0175

Plant Engineering Office
Manufacturing Staff

Maintenance
Bulletin

Subject	EXPOSURE TO ASBESTOS FIBER INHALATION DURING BRAKE AND CLUTCH INSPECTION AND REBUILDING	Number 137
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Asbestos is a constituent of most commonly used friction materials used for brakes and clutches. Overexposure to asbestos fiber in the air can occur during inspection and repair operations on brakes, brake drums, clutches, and associated components of these units when compressed air is used to blow off asbestos laden dust.

In order to preclude overexposure by inhalation of asbestos fiber during inspection and repair operations on vehicles, presses, and cranes the following procedure is recommended by the Industrial Hygiene Section of the Personnel and Organization Staff:

- o Brakes, brake drums, clutches, and other associated components shall be cleaned using an industrial type vacuum cleaner with a filter system efficiency capable of capturing a three (3) micron particle size. The Industrial Hygiene Section has evaluated and found acceptable from the asbestos fiber emission standpoint the Sears, Roebuck and Company, Catalog #DHT1/B11N, forty-five (45) gallon industrial vacuum cleaner for wet or dry pickup. Accessory set, Catalog #9G110073, consisting of crevice tool and brush must be used to afford proper pickup. Current (1973) cost of this unit complete with accessory set is approximately \$105.00.
- o Disposal of asbestos laden waste from the vacuum cleaner shall be done by wet methods of dust suppression or by an employee performing such removal using a respirator specified by the U.S. Bureau of Mines for pneumoconiosis producing dusts under Approvals 21C and Schedule 21. The Minnesota Mining and Manufacturing Company respirator, Model 8710, meets these requirements.
- o Disposal of asbestos laden waste from the vacuum cleaner shall be in sealed containers labeled as per subparagraphs (g) and (h), Federal Register 1910.93(a), pages 22143 and 22144 (OSHA). The filters on the discharge ports should also be disposed of when they become loaded rather than attempting to clean them. These filters should be disposed of in properly labeled sealed containers.
- o Under no circumstances shall compressed air blowoff be used to clean brakes, brake drums, clutches and associated components.

Aug. 1, 1973

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