FILE NAME: Ford (FD)

DATE: 1973

DOC#: FD120

DOCUMENT DESCRIPTION: Memos RE Asbestos in Brake Dust with Handwritten Suggestion/Response

F03955

Inter Office

Scientific Research Staff

May 29, 1973

To: J. R. Knauss

cc: E. M. Quarles
J. L. Mayer, Jr.
C. D. Melvin*
L. Bartosiewicz*
J. A. Keller
E. L. Gealer*
W. R. Pierson*

Subject: Asbestos Fiber Emissions During Brake Servicing

At your request, several members of our staff (asterisks) have collectively gathered some information about the asbestos fiber release during brake service.

First of all, our brake vendors presently use the air hose or an industrial vacuum cleaner with auxilliary brush. Bendix, in its many garages, has only vacuums available for brake work. All air guns and brooms were reportedly removed.

The British, with more stringent standards, have adopted commercial vacuum cleaners or special shrouded cleaners for brake service. These are described in "Annals of Occupational Hygiene," Volume 13, 1970, which has been supplied to you.

A simple test was performed in the Transportation Garage during brake service on a Chateau Club Wagon, using a small commercial vacuum (5 gal. Power Vac, Shop Vac Corp., Hackensack, N.J., Model RA-150. 115 VAC/DC at 5.2 amps). As the mechanic serviced the right front brake (11" x 3" drum) one sample was collected from a filter on his upper chest and another sample was collected from the vacuum discharge duct. Millipore 0.8 μm membrane type filters (35 mm effective diameter) were used with Gelman filter holders and vacuum pumps. Sampling was conducted for the four minutes during which maximum exposure would be expected. Thus, the results would be expected to represent the peak fiber levels, and not the average.

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The vacuum cleaner exhaust was found to have collected .98 fibers/cc while the mechanic's sampler collected .45 fibers/cc (see attached test report). These levels are well below present and proposed OSHA standards, but the higher level from the vacuum cleaner exhaust suggests that further improvements could be made. For example, a heavier duty vacuum has a larger and better sealed bag. With use, the fiber discharge rate from the vacuum could be expected to decrease as the larger particles bridge the bag openings to reduce the effective pore size. A larger, more powerful vacuum should also provide substantially greater cleaning effectiveness on the brake parts.

Mr. Quarles suggested the vacuum drum be lined with a plastic bag before use. This appears to offer the best means for disposal of the collected dust and bag.

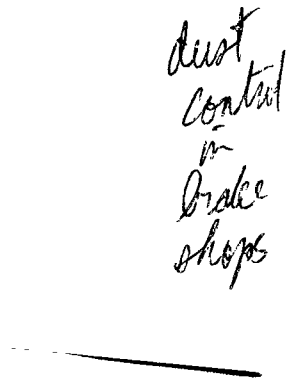
A visit to a Bendix garage facility is planned to provide your personnel with added data on implementation, equipment, and procedures.

A. E. Anderson
Mechanical Research Department

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The sticky note shown below was written by Barry Castleman and attached to the page immediately following this one along the right margin at the spot marked on the next page with an X



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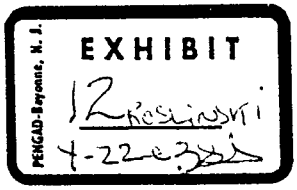
# BRAKE LINING DUST REMOVAL SURVEY

| Contact | Comments |
|---|---|
| Mel Huggins<br>Performance Test<br>Unit Supervisor | Really don't clean that much, but we do some air blow-off. |
| Lou Knight<br>Senior Test Engineer | No more air blow-off at VEG. We purchased a special vacuum arrangement for attachment to vacuum plate. Disc brakes do not develop dust. |
| Bob Harmount<br>Test Engineer | Use vacuum type removal so we don't blow asbestos dust in air. Not good to blow out dust. We sometime brush out. |
| John Dobbyn<br>Maintenance Supervisor<br>at MPG | We sometimes tap it (the dust) out - then use low air blow-off. But we generally brush it out because the dust is bad. We could easily live without air blow-off if we had vacuum means. |
| Don Melow<br>Supervisor -<br>Heavy Truck - VEG | We use vacuum cleaner almost all the time. We sometimes wipe or brush off dust. We use very little blow-off. We could do without it easily. |
| John Milke<br>Supervisor - VEG | Not too much maintenance on brakes. We use vacuum. Very little air blow-off. We could do without blow-off altogether. |
| Amrico Ray<br>Supervisor - VEG | We vacuum out when we do it. |
| John Finnerty<br>Supervisor - VEG | We vacuum out when we do it. |
| John Hockaday<br>Supervisor - VEG | Usually use vacuum, but sometimes use air blow-off. No problem doing without blow-off. |
| Ken Schou<br>Administration Garage | We usually blow it out with air gun. Don't have too much brake work in this regard. We can easily live without blow-off. We can brush, wipe, vacuum. |
| Ray Nevi<br>Brake Test Engineer | We do not do this type work, but it would be best to vacuum. |

## GENERAL CONCLUSIONS

1. Vacuuming is the superior and proven method that is the safest.
2. None of those contacted felt that air blow-off is a necessity. All realized there is some degree of health ramifications involved. All agreed they could perform necessary brake maintenance without air blow-off method.

R. M. Quarles




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Dann - was this landed? #40 assigned to Leonard due 7/25

Don Get Brad Ray & Ted Sokol to do 4 day review 6-26-73

Ford

7/17/73

Ford Marketing Corporation
Inter Office Communication

RECEIVED
MAY 30 1973
SERVICE RESEARCH CENTER
Ford Customer Service Division
5-25-73

R Rice

John St John or ~~Al~~ Turner

Subject: Brake Repair Dust Collection

Remember some years ago you were looking at a brake dust collector as a possible Rotunda item? It was a big can shaped affair with a rotating air nozzle inside.

With the current emphasis on work safety regulations, and the disturbing sight of asbestos dust blowing throughout a shop (other mechanics have noted it too), I think we might find a renewed dealer interest in such a tool.

What do you think?

Bob Bamford

Plant Resident Svc Engr

SE

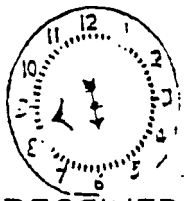
2100 Eldorado Dr NE
Atlanta 30345

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EXHIBIT
14 Rosinski
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RECEIVED
D. R. VEAZEY

Inter Office

General Services

June 19, 1973

Mr. D. R. Veazey

cc D. L. Block
E. H. Crabtree
F. J. Dery
R. U. Obringer
P. E. Toth

Subject: Asbestos

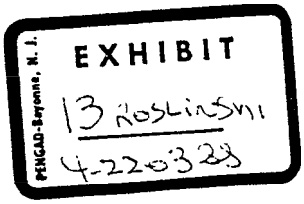
As you are aware we engaged our Industrial Hygiene Section to conduct several environmental tests at Arizona Proving Ground, and Mr. Henry Lick of that Section performed the necessary sampling and tests during the week of April 23, 1973. Included in the testing were samples of airborne asbestos dust generated while cleaning truck brake linings and assemblies.

We have received a written report of the laboratory analysis which relates that although the maximum allowable 5 fibres per cubic centimeter was not exceeded on a time-weighted average, there was an instance during the test where the "peak" maximum of 10 fibres per cubic centimeter was exceeded.

Paragraph 1910.93a of the OSHA Law concerning asbestos (copy attached) states that the employe shall be notified in writing if he is exposed to a concentration of asbestos that exceeds the peak level. It is requested that the employe, Peter Wasilewski, one of your Driver-Mechanics, be personally notified by using the attached Notification Card. After the employe has been notified, one copy should be placed in his Medical Record and the original returned to this office.

Concurrent with employe notification it is required that all cleaning and "dusting" of brakes and components by compressed air be discontinued and prohibited.

Future dust removal from brake assemblies is to be done by use of a "shop" vacuum available from Sears Roebuck and Company, Craftsman 45-gallon Heavy-duty Industrial Vac with dolly and nozzle, Part No. 99KT 17831N. Accessory set, Part No. 9KT 16973, must be provided to afford proper and efficient removal of dusts. The entire cost is slightly less than $100.00. This unit has been thoroughly checked for effectiveness and is approved for vacuuming of asbestos by Industrial Hygiene Section and General Services Safety Activity. The attached procedure must be followed when the unit is emptied and contents discarded.




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Should it become necessary to "dust" or clean brakes prior to receipt of the vacuum unit, each employe so involved must wear an approved dust respirator regardless of length of exposure to asbestos dust. Minnesota Mining and Manufacturing respirator, Model 8710, should be used for this purpose.

Your attention is directed to OSHA Paragraph 1910.93a (j) 1 through 6 of the attached Regulations concerning Medical Examinations and Records. When full compliance with this paragraph has been met, as discussed by us in a recent telephone conversation, please advise this office.

Another review of exposure to asbestos at APG will be made within six months and annually thereafter.

If there are any questions you may have, or if we can be of any further assistance, please contact us.

J. A. Keller

Attachments

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