INTER ORGANIZATION COMMUNICATION

Raybestos Manhattan

Manheim, Pa.

DIVISION and LOCATION

TO: Mr. Paul Lee

DATE: September 20, 1976

SUBJECT:

Dear Paul:

Attached is a marked up copy of a work practice write-up originally prepared by Ron Moalli several years ago for Dust Control in Brake Service Centers. This has been worked over several times to incorporate up-to-date input and the ideas of others and represents at this time what I consider to be the best procedure to recommend to anyone requesting information on airborne asbestos dust control in brake service work.

Please review this promptly and call me to discuss any ideas you may have for improvement or to advise that it is ok as far as you are concerned to circulate this as is.

Thanks for your cooperation.

I. H. Weaver

grb
att.
cc: Messrs. E. W. Drislane, FMSI
J. H. Marsh

F-8-(4)

FMSI--0233

FMSI 03206

ASBESTOS DUST CONTROL IN BRAKE SERVICE CENTERS

INTRODUCTION

Most friction materials in use today contain about 50% to 60% asbestos fiber. ~~Many substitute materials have been tried, but no substitute has been found even though this search has continued for many years.~~ Today, a great deal of publicity has been given to the fact that when inhaled ~~and combined with other foreign~~ or ingested asbestos fiber may be injurious to your health.

When incorporated into brake linings, the asbestos fiber is "locked" into a matrix of other materials and presents little hazard. Furthermore, studies have shown that as brake linings wear, the product of that wear is no longer recognizable, physically or chemically, as asbestos dust. ~~Therefore~~, the majority of ~~any~~ problems that arise in the brake service areas of garages are those of precaution and good housekeeping.

PRECAUTIONS TO BE FOLLOWED BY BRAKE SERVICE SHOPS

If it is assumed that there is free asbestos dust in brake service shops capable of being made airborne, and precautionary measures are taken on this basis, the problems of asbestos dust should be essentially eliminated.

PERSONAL

1. Use coveralls as protective outer clothing. This is done quite frequently by mechanics to save wear and tear on their personal clothing, but if this suggestion is considered as related to asbestos fibers, it would tend to eliminate the transport of any fiber to a mechanic's home or outside of the brake service shop. The coveralls should be laundered frequently, and care should be taken in handling soiled coveralls to prevent generation of airborne fibers.
2. Develop good personal hygiene practices. Washing thoroughly before eating will prevent the ingestion of any foreign matter. Food should not be stored or eaten in the work area.
3. It is a well-published fact that smoking is injurious to your health. When coupled with asbestos dust, problems are accentuated. Do not smoke.

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THE BRAKE SERVICE SHOP

1. Keep the entire area dust free by utilizing a vacuum cleaner and periodic floor washings. Particular attention should be paid to window ledges, frames, overhead lights, girders, rafters or any inaccessible place that will collect dust. This should improve working conditions and mechanics' morale. NEVER use an air hose or any other method that would tend to cause the dust to become airborne. This ~~would~~ includes sweeping with a broom. If it is deemed necessary to sweep the floors, make sure ~~that~~ a sweeping compound is used to minimize the dust. ~~Sprinkle dri clean should be used on grease and oil spots.~~

2. ~~The~~ Vacuum cleaners should be in good condition, without leaks, and capable of screening out the smallest of dust particles.

BRAKE SERVICE WORK

1. When removing the drums or disc brake rotors, place each down carefully so that as much of the dust as possible is contained. For drums, the open end should be placed upward.

2. Remove all parts necessary, including the shoe and lining assembly and place carefully alongside of each drum/rotor. Again, handle carefully so as not to cause any airborne dust.

3. Vacuum each backing plate and drum/rotor with an attachment that will provide the greatest amount of suction (such as the radiator cleaner attachment as used in the home). Repeat the procedure with an attachment that is used for dusting. This usually has bristles or a brush that will loosen the dust particles and draw them into the vacuum. Repeat the procedure for each wheel followed by a general vacuuming of the floor in the general work area. NEVER blow dust away with an air hose. The vacuuming procedure should not take long ~~to do~~ and eliminate most airborne dust, creating better working conditions. Make sure that the drum/rotor is vacuumed along with the ancillary parts.

4. Recondition, repair or replace parts of the hydraulic system.

5. Lightly sand the bosses on the backing plates or the appropriate metal-to-metal contact points of the disc brake. Lubricate those points.

6. Remove the newly relined brake shoes from their box and return the used shoes into the same box, being careful not to disturb ~~the~~ dust created by ~~the~~ wear of the brake lining.

7. ~~The~~ brake shoe and lining assemblies received ~~from the factory~~ for passenger cars and light trucks need not be ground or "arced." ~~They are~~ ~~lined another~~ cam or contour ground ~~at the factory~~.

   (a) for drum brakes up to .030" oversize in diameter, use the standard thickness lined brake shoe without further grinding.

   (b) for brake drums .030" and over, ~~the~~ oversize thickness lined brake shoe will fit properly without further grinding.

   If grinding is necessary (as may be the case of heavier truck shoes), use only a grinding apparatus which is adequately equipped to collect dust that may be generated. This is very important and, if a doubt exists, the equipment manufacturer should be consulted concerning the dust collection system.

8. If the drum is turned, do not use an air hose to blow out the metal chips. Carefully remove the drum from the lathe, turn over to empty the loose chips and wipe the surface with a clean cloth moistened with denatured alcohol.

9. Reline the vehicle in the normal manner.

You will find that this procedure will not increase the time required to reline a vehicle if the operations are organized properly. Working conditions for all concerned will be pleasant as well as ~~the~~ surroundings ~~in~~ the brake service areas. It should enhance the feeling in the mechanic that should make him better organized with respect to his tools and procedures to be followed. Remember, the air hose should never be used around brake service work. Even though studies have shown that only 2-3% of the by-products of brake lining may be in the form of asbestos fiber and the fibers in the brake linings are "locked in", good practices ~~will~~ eliminate all dust problems.