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SUPERVISOR, PLANT
PROTECTION & SAFETY
MELROSE PARK PLANT



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Supervisors, Plant
Protection & Safety
Safety Supervisors

Revised Procedure for Repair and Replacement of
Pipe Coverings or Insulation Containing Asbestos

Most plants, at one time or another, experience maintenance problems requiring the removal of asbestos insulation from old steam lines or boilers. Attached is a revised standard operating procedure that must be followed when this kind of work is done.

One of the requirements in this procedure is that a vacuum cleaner approved for asbestos be used in cleanup work. A vacuum cleaner with a filter system designed for capturing asbestos fibers is available through the IH Dealer Service Tool Program. It is shown in the IH "Serv-Equip" catalog as "Brake and Clutch Service Vacuum" number SE-2904. A fact sheet describing this equipment is attached, and additional details can be obtained from any Truck Sales Regional Office.

Also attached is information on procedures for reducing exposures to asbestos dust during brake servicing and a fall prevention system. These are items of general information and may be of interest to you.

A handwritten signature in cursive script, reading 'E. L. Alpaugh'.

E. L. Alpaugh
Industrial Hygiene Manager

ja
Attachments
cc:

Mr. R. F. Moscato
Mr. W. E. Nichols

SUPERVISOR, PLANT
PROTECTION & SAFETY
MELROSE PARK PLANT

RECOMMENDED PROCEDURES FOR REDUCING ASBESTOS DUST DURING BRAKE SERVICING

1. Because studies have indicated that exposure to excessive amounts of asbestos dust may be a potential health hazard, OSHA has set maximum limits of levels of airborne asbestos dust to which workers may be exposed. Since most automotive friction materials normally contain a sizable amount of asbestos, it is important that people who handle brake linings and clutch facings understand the nature of the problem and know the precautions to be taken.

2. Areas where brake work is done should be set aside if possible, and entrances should be posted with an asbestos exposure sign as follows:

**ASBESTOS DUST HAZARD
AVOID BREATHING DUST
WEAR ASSIGNED PROTECTIVE EQUIPMENT
DO NOT REMAIN IN AREA UNLESS YOUR WORK REQUIRES IT
BREATHING ASBESTOS DUST MAY BE HAZARDOUS TO YOUR HEALTH**

The amount of asbestos in the dust from brake lining wear is normally at an extremely low level because of chemical breakdown during use, and if machining of friction material does not take place, simple procedures will minimize exposure. During brake servicing, the mechanic should wear an air purifying respirator, either a throwaway or one with replaceable particulate filter(s), as approved by the mining Enforcement and Safety Administration or NIOSH. It should be worn during all procedures starting with the removal of the wheels and including reassembly.

3. During disassembly, all parts should be carefully placed on the floor to minimize the possibility of creating airborne dust. Dust should first be cleaned from the brake drums, brake backing plates and brake assemblies using an industrial type vacuum cleaner equipped with a high efficiency filter system. After vacuum cleaning, any remaining dust should be removed by using a rag soaked in water and wrung until nearly dry. Under no circumstances should compressed air or dry brushing be used for cleaning.

4. Of extreme importance are the precautions which must be taken during machining of friction material. This is the operation in brake servicing when exposure to asbestos dust is at its highest. In addition to the approved respirator, there must be local exhaust ventilation such that the worker exposures are maintained at least below the 1976 OSHA asbestos standards. If there is any question as to the efficiency of asbestos dust removal by the machine, the manufacturer should be contacted.

(Over)

5. Industrial vacuum cleaner bags containing asbestos dust and cloths used for wiping brake assemblies should be sealed in plastic bags and labeled with the following warning label printed in letters of sufficient size and contrast to be readily visible and legible:

CAUTION CONTAINS ASBESTOS FIBERS
AVOID BREATHING DUST
BREATHING ASBESTOS DUST MAY CAUSE SERIOUS BODILY HARM

All asbestos waste should be disposed of in accordance with the OSHA asbestos regulation. During removal of vacuum bags, an approved respirator, as described in (2) on the previous page should be worn.

6. All floor cleaning in areas where brakes are repaired should be done with the high efficiency industrial vacuum cleaner as described in (3) on the previous page. Under no circumstances should dry sweeping take place. Grinding (arcing) machines should also be cleaned with such a vacuum cleaner and any remaining dust wiped with a damp cloth. An approved respirator, as described previously should be used during this cleaning.

7. Although adherence to the above procedures should minimize any contamination of work clothing, it is necessary that the appropriate sections of the OSHA regulations on asbestos be followed when ceiling levels on asbestos dust exceed current standards. This could involve special clothing, change rooms, etc. At the very least the work clothes should not be taken home but should remain at work for industrial laundering.

8. Proper hygiene practices will help minimize exposure to asbestos dust. Wash thoroughly before eating and do not eat in the work area. Remember, smoking is harmful to the health, and smoking coupled with breathing asbestos dust is extremely dangerous.

CAUTION: DO NOT BREATHE ASBESTOS DUST

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Department of Health, Education & Welfare

**RECOMMENDED (INTERIM) PROCEDURES FOR
ASBESTOS BRAKE AND CLUTCH SERVICING**

The National Institute for Occupational Safety and Health (NIOSH) has research underway concerning dust exposures during brake and clutch servicing. Due to preliminary data demonstrating significant asbestos exposures during presently used brake and clutch servicing techniques, NIOSH has reviewed alternate techniques whereby asbestos exposures are reduced. The following are interim procedures recommended by NIOSH to minimize dust exposures.

1. If possible, an area shall be designated for all brake and clutch repairs. Entrances into this area shall be posted with an asbestos exposure warning sign as follows:

**Asbestos
Dust Hazard
Avoid Breathing Dust
Wear Assigned Protective Equipment
Do Not Remain in Area Unless Your Work Requires It
Breathing Asbestos Dust May Cause Asbestosis and Cancer**

2. During brake servicing, an air purifying respirator, either single use or with replaceable particulate filter(s), as approved by the Mining Enforcement and Safety Administration (formerly Bureau of Mines) or NIOSH, shall be worn during all procedures starting with the removal of the wheels and including reassembly. During manual clutch servicing, such a respirator shall be worn during removal and cleaning of the clutch, pressure plate and housing assembly and during installation of the new clutch assembly.
3. Dust shall first be cleaned from brake drums, brake backing plates, brake assemblies and clutch assemblies using an industrial type vacuum cleaner equipped with a high efficiency filter system (99% efficiency for 0.3 um diameter aerosols). After vacuum cleaning, any remaining dust shall be removed using a rag soaked in water and wrung until nearly dry. Under no circumstances shall compressed air or dry brushing be used for cleaning.
4. During arcing and reveting operations, an approved respirator, as described in (2) above, shall be worn. Grinding (arcing) machines shall be provided with local exhaust ventilation such that worker exposures are maintained at least below the 1976 OSHA asbestos standard (29 CFR 1910.1001). * At a minimum, the dust bag of the arcing machine shall be removed the replaced with the hose of the high efficiency industrial vacuum described in (3) above.

5. Industrial vacuum cleaner bags containing asbestos dust and cloths used for wiping brake and clutch assemblies shall be sealed in plastic bags and labeled with the following warning label printed in letters of sufficient size and contrast to be readily visible and legible.

Caution
Contains Asbestos Fibers
Avoid Breathing Dust
Breathing Asbestos Dust May Cause Asbestosis and Cancer

All asbestos waste shall be disposed of in accordance with the OSHA asbestos regulation, 29 CFR 1910.1001(h). During removal of vacuum bags, an approved respirator, as described in (2) above, shall be worn.

6. All floor cleaning in areas where brakes and clutches are repaired shall be done with the high efficiency industrial vacuum cleaner as described in (3) above. Grinding (arcing) machines shall also be cleaned with such a vacuum cleaner and any remaining dust wiped with a damp cloth. An approved respirator, as described in (2) above, shall be used during this cleaning.
7. Although adherence to the above procedures should minimize any contamination of work clothing, it is required that the appropriate portions of the OSHA regulations on asbestos (29 CFR 1910.1001(d) (3 and 4)) concerning special clothing, change rooms, etc. be followed.

NOTE: Strict adherence to the above procedures should minimize exposures to mechanics during brake and clutch servicing. These are interim recommendations and are subject to revision pending results of ongoing NIOSH research.

- * Section 1910.1001 of the Code of Federal Regulations was formerly Section 1910.93a. This change was noted in the Federal Register, May 28, 1975.

Prepared By
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