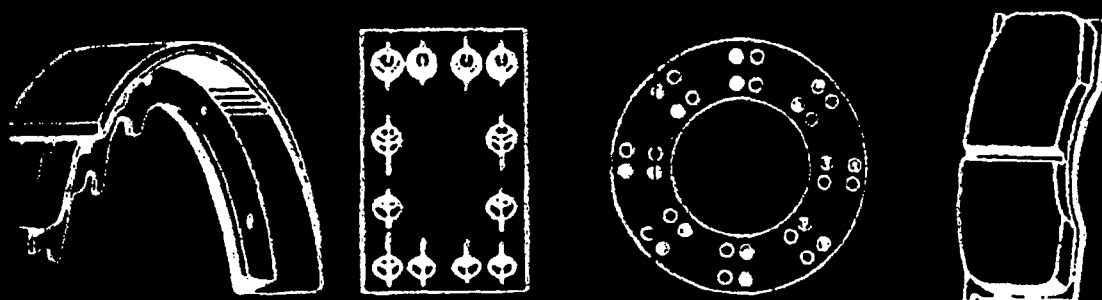


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BRAKE LINING, BRAKE SHOE AND CLUTCH FACING AUTOMOTIVE DATA BOOK

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RECOMMENDED PROCEDURES FOR REDUCING ASBESTOS DUST DURING BRAKE SERVICING

friction materials used for brake service may or may not contain asbestos as mandated by the replacing asbestos with alternative materials. OSHA regulations for brake servicing refer directly to the asbestos used in friction materials. Since the long-term medical effects of non-asbestos fibers are often unknown, it is suggested that exposure levels be controlled for all replacement friction materials.

OSHA regulations on asbestos exposure (29 CFR 1910.1001) emphasize the importance of airborne levels of asbestos to determine if the workplace is in compliance and if not, what action must be taken.

- a. The Permissible Exposure Limit (PEL) is 0.2 fibers per cubic centimeter (f/cc) as an 8-hour time-weighted average (TWA).
- b. The Action Level (AL) is 0.1 f/cc, which activates the standard if exceeded in the workplace.

Appendix F to 1910.1001 is a guide for brake and clutch repair operations. A proposed rule dated 7-29-79 is in the process of becoming mandatory. A proposed rule for the past regulation. These documents should be described and should be referred to for proper work practices. The latter from an optional standpoint. The latter from a mandatory position.

The Environmental Protection Agency (EPA) has the following for machinery and equipment: auto mechanicals. Asbestos is found in many parts. Use pre-ground ready-to-install parts. If brake lining must be ground, provide a brake grinding machine with a special shield. A shield to keep dust from the grinding area. Machinery should have an exhaust dust collector to prevent asbestos exposure and avoid contamination.

In certain areas, ground brake lining concentration cannot be reduced below the PEL. A respirator program is required. OSHA standard specifies that workers must be using respirator equipment with high efficiency filters (for exposures not in excess of 2 f/cc in conjunction with control methods such as engineering controls to reduce dust levels). Asbestos standard for workers is 0.2 f/cc.

5. Good housekeeping is essential. All surfaces must be maintained as free of dust as possible. Surfaces on which asbestos is found may not be cleaned by the use of compressed air. Industrial vacuum cleaners equipped with HEPA filters should be used for removing accumulations of dust and waste and water or other suppressants should be applied if brooms are used. The proposed standard would require this each shift.

6. Good personal hygiene practices are important in minimizing asbestos dust exposure. Wash before eating. Shower after work. If the PEL is exceeded, very specific rules apply. Smoking in asbestos contaminated work areas is prohibited by federal regulation.

7. Waste, scrap, debris, bags, containers, equipment and clothing contaminated with asbestos must be disposed of in sealed, impermeable bags, or other closed, impermeable containers. Labels must be affixed thereon including the following information:

**DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD**

It is also necessary to comply with state and local regulations.

Consult specifically the following Federal regulations:

- 29 CFR 1910.1001, including Appendix F
- 40 CFR 61, Subpart M
- 29 CFR 1910.1200

This summary is prepared to assist in clutch and brake service operations. Every effort is made to provide accurate information; however, if there are discrepancies, the legal documents prevail. Regulations frequently are revised and should be consulted for updates.