SOP FOR BRAKE AND CLUTCH INSPECTION DISASSEMBLY, REPAIR, AND ASSEMBLY

1. The Occupational Safety and Health Administration (OSHA) mandates the implementation of engineering controls and work practices when performing operations (disassembly, inspection, repair, and assembly) on brake/clutch systems containing, or suspected of containing asbestos. Proper use of engineering controls and work practices will maintain workers' asbestos exposure level below the permissible exposure limit during these operations. The amount of asbestos in dust from these operations is normally quite low, and simple work practices will minimize exposure. However, if appropriate engineering controls and work practices are not used, airborne concentrations may approach dangerous levels.

2. It is advised that vehicle maintenance shops incorporate proper engineering controls and work practices into unit/activity maintenance and safety standing operating procedures for brake and manual clutch services. Proper engineering controls and work practices shall be applied whenever vehicle brake and clutch systems containing, or suspected of containing, asbestos are serviced. Workers newly assigned shall be given initial training by maintenance supervisors. Workers are advised to review the unit/activity SOP prior to servicing brakes or clutch systems containing, or suspected of containing, asbestos.

3. One of two methods of engineering controls and work practices (Paragraphs A & B, listed below) shall be selected. Note: Facilities with no more than 5 pairs of brakes or 5 clutches inspected, disassembled, reassembled, and/or repaired per week, may use the method outlined in Paragraph C, below.

(A) Negative Pressure Enclosure/HEPA Vacuum System Method:

(1) Enclose clutch/brake assembly to prevent fiber release into workers' breathing zone or the work area.

(2) Enclosure shall be sealed tightly and thoroughly inspected for leaks before work begins.

(3) Worker must clearly see operation to be performed; enclosure shall incorporate impermeable sleeves to enable worker to handle brake/clutch assembly. Confirm integrity of sleeves before work begins.

(4) During the operation, a HEPA-filtered vacuum shall be used to maintain enclosure under negative pressure. Compressed air may be used to remove asbestos fibers or particles from the enclosure.

(5) The HEPA vacuum is first used to loosen asbestos-containing residue from brake/clutch assembly, and then to evacuate loosened asbestos-containing material from the enclosure, and finally to capture the material in the HEPA filter.

(6) The vacuum's (HEPA) filter, shall be first wetted with fine mist of water, then removed and placed immediately into an impermeable container (double bagged or wrapped in 6-mil or thicker plastic and sealed with duct tape). After sealing, asbestos debris and brake/clutch parts, may be taken to Bldg 5212, the Defense Reutilization & Marketing Office (DRMO), or Solid Waste Convenience Centers. Asbestos debris and brake/clutch parts may be brought to DRMO on Monday or Tuesday 0730-1500 hours without an appointment, or Wednesday through Friday by appointment only. DRMO's phone number is 798-4740.

Locations of the Solid Waste Convenient Centers are Stillwell and Airborne STs (Open Sunday through Saturday, except holidays, 0600-1700 hours), or 47th and Market Garden (Open Monday through Friday, except holidays, 0830-1700 hours). DRMO also requires that brake pads be accompanied by a completed DD Form 1348-1A.

(7) Any spills or releases of asbestos-containing waste material from inside the enclosure or vacuum

hose or vacuum filter shall be immediately cleaned up and properly disposed of as in (A)(6) above.

(B) Low Pressure/Wet Cleaning Method:

(1) Place catch basin under brake assembly and position to avoid splashes/spills.

(2) Fill catch basin with organic solvent or wetting agent. Gently flood brake assembly with liquid to prevent airborne release of asbestos fibers.

(3) Allow aqueous solution to flow between brake drum and brake support before drum is removed.

(4) After removing brake drum, thoroughly wet the wheel hub and back of the brake assembly.

(5) Before removing old brake shoes, thoroughly wet the brake support plate, brake shoes, and brake components used to attach the shoes.

(6) See (A)(7) above.

(7) The use of dry brushing during low pressure/wet cleaning operations is PROHIBITED.

(C)Wet Methods:

(1) A spray bottle, hose nozzle, or other low pressure system capable of delivering fine mist of water (or amended water), shall be used to thoroughly wet brake/clutch parts, followed by wet wiping with clean cloth.

(2) Cloth shall be placed in impermeable container and properly disposed of as in (A)(6) above.

(3) Any spills of asbestos-containing fluid or waste shall be cleaned up immediately.

(4) The use of dry brushing during wet method operations is PROHIBITED.

4. In addition, workers shall avoid smoking, drinking, or eating when servicing brake and clutch systems containing, or suspected of containing, asbestos. Workers shall wash their hands before breaks and lunch, and after completing brake and clutch services.

5. Following completion of each brake or clutch service, workers shall clean the floor using a HEPA - filtered Vacuum, if available, or wiping the floor with a dampened (solvent or amended water) cloth or rag. Any asbestos waste shall be disposed of per (A)(6) above.

6. If the engineering controls and work practices, outlined above, are not implemented during brake and clutch inspection, disassembly, repair, and assembly, workers will be required to wear respiratory protective devices during the entire operation. (Please address questions relating to Respiratory Protection to Mr. Mezei, 956-0113)

7. Technical Assistance: For additional guidance and/or questions, please contact the Industrial Hygiene Section, Preventive Medicine Service, Mr. Zimmerman, 789-8693