



HC6

## *Control of Wood Dust From Automated Routers*

### HAZARD

Automated routers have been found to create significant amounts of wood dust. Workers exposed to wood dusts have experienced a variety of adverse health effects such as eye and skin irritation, allergy, reduced lung function, asthma, and nasal cancer. Therefore, the National Institute for Occupational Safety and Health\* (NIOSH) recommends limiting wood dust exposures to prevent these health problems.

### CONTROLS

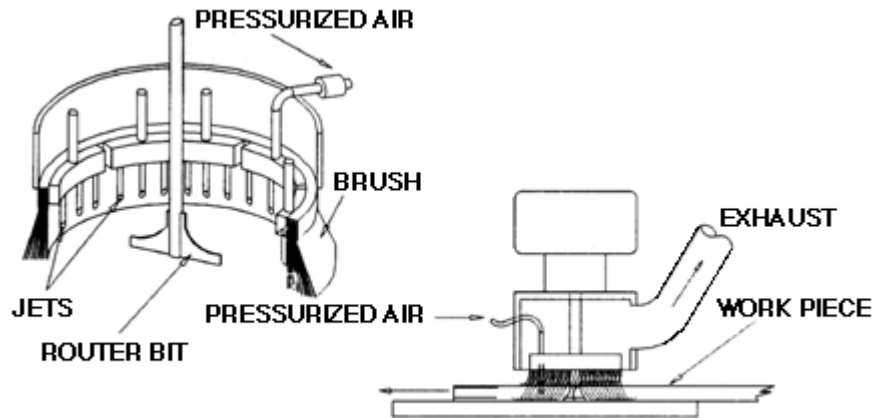
NIOSH researchers found that the wood dust generated by automated routers is generally not adequately controlled. To address this problem, researchers designed and tested a new control system that substantially reduced dust emissions.

- **JET STRIPPER SYSTEM**

Automated routers, consisting of a moving router head and table, are capable of routing in any direction. These high speed machines generate substantial amounts of wood dust. Generally, the wood dust is controlled by a local exhaust system located at the router head. Despite this control, significant amounts of wood dust are emitted into the workroom. A computer controlled Jet Stripper System was developed to control these emissions. (See ILLUSTRATION) This system consists of 24 jets combined into 8 operational units uniformly located around the inside periphery of the brush holder. The Jet Stripper and brush surround the router bit. The jets are supplied with pressurized air and are activated by pneumatic valves as needed. The air slows down the dust particles so they can be collected by the local exhaust hood. Testing shows that this system reduces wood dust emissions by 90 percent. The Jet Stripper does not interfere with the operator, requires minimal maintenance and is inexpensive to install and operate. This control can also be used with conventional, one-dimensional routers with some modification. This dust control device is not currently commercially available. Call NIOSH for more information.

\*NIOSH is the Federal agency responsible for conducting research and making recommendations for preventing work-related illness and injuries. HAZARD CONTROLS are based on research studies that show reduced worker exposure to hazardous agents or activities.

**ILLUSTRATION:  
JET STRIPPER SYSTEM FOR AUTOMATED ROUTERS**



U.S. Patent 4986703

Illustrator: Daniel S. Watkins

## For More Information

To obtain more information about controlling this hazard, or for information on other occupational health and safety issues, call NIOSH at:

1-800-35-NIOSH (1-800-356-4674)

A technical article *Control of Wood Dust from Automated Routers*, App. Occup Environ Hyg 5(7):419-427(1990), has been published on this subject. Also, a videotape *New Ventilation System for Automated Routers*, Tape #204, 5 minutes, may be borrowed free of charge.

This document is one in a series of seven HAZARD CONTROLS concerning wood dust control techniques listed below that are available free upon request from NIOSH:

- HC4 Control of Wood Dust from Horizontal Belt Sanders
- HC5 Control of Wood Dust from Shapers
- HC6 Control of Wood Dust from Automated Routers
- HC7 Control of Wood Dust from Large Diameter Disc Sanders
- HC8 Control of Wood Dust from Random Orbital Hand Sanders
- HC9 Control of Wood Dust from Orbital Hand Sanders
- HC10 Control of Wood Dust from Table Saws

## Acknowledgments

The principal contributors to this HAZARD CONTROLS are Jennifer L. Topmiller, Division of Physical Sciences and Engineering, and Jerome P. Flesch, Education and Information Division, NIOSH.

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