

machine adjusted, this grinder works automatically. The wheel ordinarily used is a 1/2" x 8" Grain 50, Grade N Norton Company Alundum. The wheel is refaced or dressed with a Metcalf Emery Wheel Dresser about twice a day. The average dust produced by this dressing operation is 2,284,480 particles less than ten microns per cubic foot. About 95% of these dust particles are sharply angular crystalline in appearance under the Konimeter microscope, and about five microns or less in size. The dust produced during the sharpening or grinding of the band saw blade is on an average only 877,920 particles per cubic foot. About 50% of these particles appear angular crystalline and about 50% round black opaque. All of them are about two microns or less in size.

J - AUTOMATIC BAND SAW LAP GRINDER: Used to grind ends of band saw preparatory to welding them together. The grinding wheel usually used is 5/8" x 10" Grain 46, Grade M, Norton Company Alundum. No dust collector is provided although a dust count as high as 16,142,400 particles, ten microns or less, was found in one sample taken in front of the wheel while it was in operation. The average dust produced by this lap grinder was 4,984,320 particles per cubic foot. About 80% of these dust particles were semi-opaque, slightly angular in appearance, and two microns or less in size; 20% were black opaque, about one micron or less in size.

K - PLANING KNIFE BLADE GRINDER: Uses a 1/2" x 8" Grain 46, Grade N, Norton Company Alundum wheel. Operating speed 3000 RPM. No hood or any other protection. Average dust produced while sharpening a Planer Knife Blade was 566,400 particles, ten microns or less per cubic foot. About 60% of these dust particles were slightly angular crystalline in appearance and about two microns or less in size; 40% were opaque of various sizes from about seven microns or less. There were a few small metallic shreds.

L - LINDERMAN CUTTER GRINDER: Sharpens cutters from the Linderman machine for tongueing and grooving. Grinder uses a 1/2" x 6" Norton Alundum (Grain 60, Grade M) cup wheel. Operating speed 3000 RPM. There is a hood guard over the top of the grinding wheel, but no exhaust or dust collector, although dust counts as high as 14,386,560 particles, ten microns or less, were found at the front of the grinder in operation, and 12,574,080 particles per cubic foot in the back. The average dust produced was 9,137,920 particles per cubic foot. About 70% of these dust particles are round semi-opaque in appearance under the Konimeter microscope, and three microns or less in size; 20% are round, globular like particles, seven microns or less in size; and 10% are metallic shreds about two microns wide and 20 to 30 microns long. There are many minute crystalline particles too small and too numerous to count accurately.

M - GANG SAW BLADE GRINDER: Uses a 5/8" x 10" Grain 50, Grade M, Norton Company Alundum wheel, operating at 1800 RPM. A rather crude dust collector has been installed, but the average dust (8,760,320 particles per cubic foot) produced by this grinder in operation indicates that it is inadequate. About 90% of the dust particles in samples taken during the grinding of a Gang Saw Blade were semi-opaque in appearance and about two microns or less in size; 10% were black round, opaque, one micron or less in size. There were numerous minute black specks too small to count accurately.

N - EDGER SAW GRINDER: Uses a 3/8" x 8" Grain 60, Grade N, Norton Company Alundum wheel, operating at 1650 RPM. No hood or any other dust collector for this grinder. The low dust count, an average of only 453,120 particles, ten microns or less per cubic foot, indicates that there is very little real need for such equipment. The dust particles produced while grinding an Edger Saw Blade are angular crystalline, about two microns or less in size.

O - CIRCULAR SLAB CUT-OFF SAW GRINDER: Uses a 3/4" x 10" Grain N, Norton