

feed and discharge of the planer. These openings were made just large enough for the wood to move in and out of the planer. A short ductlike arrangement was attached at these openings to minimize the transmission of sound through them. The top and sides of the duct were covered with a layer of glass wool. A large glass window was installed in the wall just above the feed opening so that the operators could see the wood as it entered the feed rolls. Doors for maintenance work were carefully hung and gasketed to prevent sound leakage. Air for

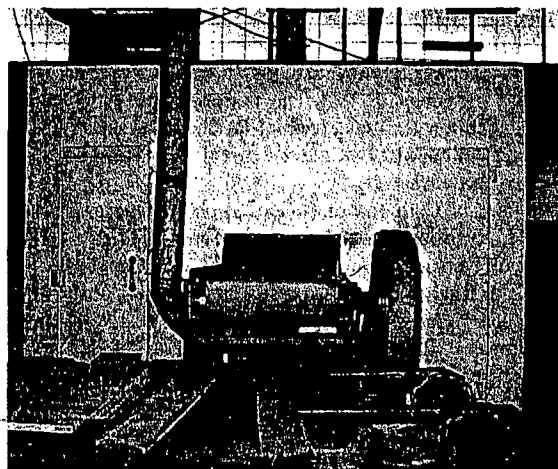


Figure 30. An enclosure around a large planer. This view shows opening at discharge end of machine. Note doors for access to interior of enclosure and moving belt that conveys wood through output duct. (Courtesy Kroehler Manufacturing Co.)

ventilation and for the removal of wood chips passes into the enclosure through a labyrinth lined with glass wool to insure that little noise escapes through this path. This air is exhausted through a heavy duct to the roof. The noise reduction obtained with an enclosure such as this depends upon the quality of workmanship but should be at least 15 or 20 db in the mid-frequency range.

*b. Enclosure for the Testing of Small Engines.* Small gasoline engines, outboard motors, chain saws, and other portable applications are usually quite noisy. Effective quieting is not readily achieved because these engines must be compact and light in weight. Therefore, the testing of these engines by the manufacturer is likely to be a severe noise exposure for the testing crews.

In one instance, chain-saw testing, small individual test cells provide a simple solution (Figure 31). The exhaust of the engine is passed through a duct that leads to a large stationary silencer. Usually, because of the shape of the exhaust stack on the engine, it is not possible to make a tight connection between

the silencing system and the engine in a reasonable amount of time. In addition, considerable noise is radiated by the air intake and the cylinder casting. Therefore, the enclosure of the saw is the most practical solution.

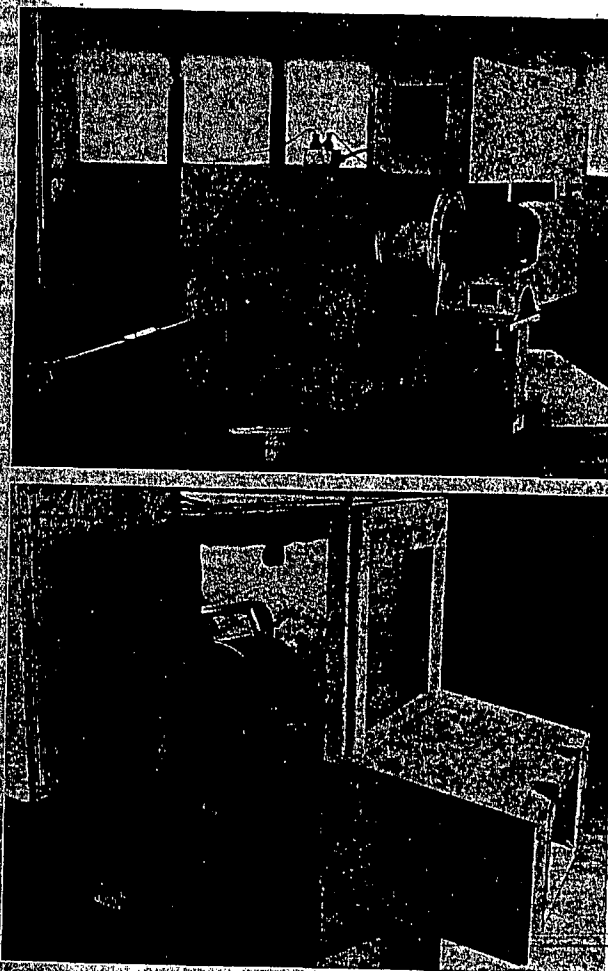


Figure 31. Two views of an enclosure for a chain saw. The duct in the top picture reduces the noise that would otherwise travel along the path taken by the cooling air as it leaves the engine. The bottom picture shows the door at the front of the enclosure. Note the window for viewing and the short duct for adjustment on the engine.