TABLE 24-L WHEEL MANUFACTURERS' TEST FACTORS

Class of Wheel	Operating Speed (sfpm)	Test Factor*
Cutting-off	All speeds	1 20
All Bonds and Types (except cutting-off)	Less than 5,000	1 25
All Bonds and Types (except cutting-off)	More than 5,000	1 50

*Multiply operating speed by test factor to obtain minimum testing speed

size Spindles, including those with adjustable speeds, should be changed only by authorized persons

Because most defective wheels break when first started, new wheels should be run at full operating speed for at least one minute before work is applied During this time, the operator should stand away from the machine.

As the wheel wears down, the spindle speed (rpm) is sometimes increased to maintain the surface speed (sfpm) Table 24-M shows how, at a given rpm, the surface speed varies inversely with diameter When the wheel is nearly worn down, the spindle is running at the highest rpm Therefore, when the worn wheel is replaced, spindle speed must be adjusted or the new wheel may break at a surface speed that exceeds manufacturer's recommendations

The cause of grinding wheel or disk failure should be thoroughly investigated, preferably with the manufacturer's representative This type of investigation, with immediate correction action, greatly reduces the possibility of recurrent failures

Grinding equipment for high-speed operation should be specially designed with particular reference to spindle bearings to control vibration, wheel strength, guards, and flanges to eliminate mounting stresses The manufacturer's approval should be obtained for high-speed operation of wheels and disks Such things as pressure from side grinding and the shape of the wheel must also be considered Approval of special high-speed operation should apply only to the particular machine investigated Also important to safe high-speed operation is maintenance of the equipment and of protective devices

Work rests

Many wheels have broken, causing injury to operators, because work has become wedged between the work rest and the wheel The work rest should be substantially constructed and securely clamped not more than ⅛ in from the wheel (Fig. 24-22) The position of the work rest should be checked frequently The rest should never be adjusted while the wheel is in motion—the rest may slip and strike the wheel and break it, or operator may catch his finger between the wheel and the rest

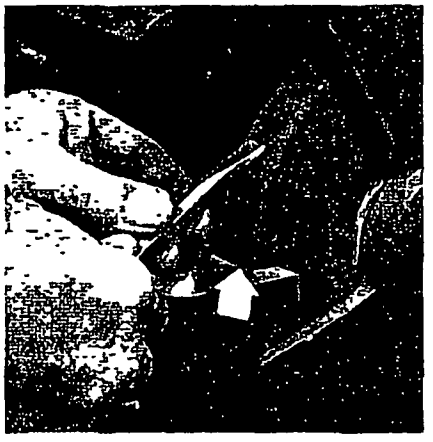


Fig. 24-22. With a properly adjusted work rest, operator can keep his hands away from the wheel and also hold the work firmly Note ⅛-in clearance between wheel and work rest