

MACHINE TOOLS

should be in accordance with manufacturers' recommendations. Disks and wheels taken out of long storage should be given the "ring" test, followed by a check for recommended speed, and a speed test on the machine on which they are to be mounted. Checking the speed of vitrified wheels is especially important—some are designed only for low-speed use.

Storage requirements vary with the type of wheel.

Straight wheels, cup wheels, and disks 6 in or more in diameter—stack flat with cushion such as corrugated paper between layers.

Straight cup wheels—store on edge or flat.

Small wheels—keep in bins or drawers.

Large wheels—keep in original containers.

Thin resinoid, rubber, and shellacked bonded wheels—stack on flat surface, such as a thick, straight vitrified grinding wheel.

Cloth-backed thin disks—stack in pairs on flat surface with cloth sides together and inserts between stacks.

Tapered side wheels—store on edge or flat with corrugated paper spacers.

Wheel mountings

All abrasive wheels should be mounted between flanges with the following exceptions: mounted wheels, threaded wheels (plugs and cones), plate-mounted wheels, and cylinder, cup, or segmented wheels mounted in chucks.

Flanges should have a diameter not less than one-third of the wheel diameter and should preferably be made of mild steel. However, cast iron or other material of equal strength is sometimes used for flanges less than 10 in in diameter. Flanges for the same wheel, whether straight or tapered, should be of the same diameter and thickness, accurately turned to correct dimensions, and in balance. The requirement for balance does not apply to those flanges purposely made out of balance to counteract an unbalanced wheel.

The inner or driving flange should be keyed, screwed, shrunk, or pressed onto the spindle, and the bearing surface of the flange should run true with the spindle. The bore of the outer flange should have an easy sliding fit onto the spindle.

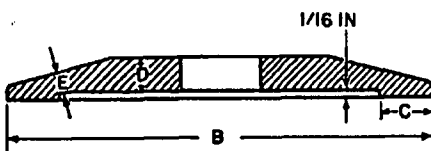
Flanges should be frequently inspected at regular intervals. A flange found to be

sprung, not bearing evenly on the wheel, or defective in any other way should be removed from the spindle at once and replaced with a flange in good condition.

There are two classes of flanges used to mount abrasive wheels: *straight flanges* and *safety flanges*.

Straight flanges serve only as a support and driving medium for the wheel and should only be used where a safety guard

TABLE 24-A
MINIMUM DIMENSIONS FOR
STRAIGHT RELIEVED FLANGES



Wheel Diam (in)	B Min Outside Diam of Flange (in)	C Radial Width of Bearing Surface		D Min Thick- ness of Flange at Bore (in)	E Min Thick- ness of Flange at Edge of Recess (in)
		Min (in)	Max (in)		
1	$\frac{5}{8}$	$\frac{1}{16}$	$\frac{1}{8}$	$\frac{1}{16}$	$\frac{1}{16}$
2	$\frac{3}{4}$	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{8}$	$\frac{3}{32}$
3	1	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{8}$	$\frac{3}{32}$
4	1 $\frac{1}{8}$	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{8}$	$\frac{3}{16}$
5	1 $\frac{3}{4}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{8}$
6	2	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{16}$
7	2 $\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{16}$
8	3	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{16}$
10	3 $\frac{1}{2}$	$\frac{3}{8}$	$\frac{5}{8}$	$\frac{3}{8}$	$\frac{1}{4}$
12	4	$\frac{3}{8}$	$\frac{5}{8}$	$\frac{1}{2}$	$\frac{3}{8}$
14	4 $\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{3}{8}$
16	5 $\frac{1}{2}$	$\frac{1}{2}$	1	$\frac{1}{2}$	$\frac{3}{8}$
18	6	$\frac{1}{2}$	1	$\frac{3}{8}$	$\frac{3}{8}$
20	7	$\frac{5}{8}$	1 $\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$
22	7 $\frac{1}{2}$	$\frac{5}{8}$	1 $\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$
24	8	$\frac{5}{8}$	1 $\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$
26	8 $\frac{1}{2}$	$\frac{3}{4}$	1 $\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$
28	10	$\frac{3}{4}$	1 $\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2}$
30	10	$\frac{3}{4}$	1 $\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$
36	12	1	2	$\frac{3}{4}$	$\frac{3}{4}$
42	14	1	2	$\frac{3}{4}$	$\frac{3}{4}$
48	16	1 $\frac{1}{4}$	2	1 $\frac{1}{2}$	1
60	20	1 $\frac{1}{4}$	2	1 $\frac{1}{4}$	1 $\frac{1}{2}$

NOTE: These are not safety flanges and should be used only in connection with safety guards.