

Milwaukee Tool
Heavy-Duty Sanders & Grinders
Model Numbers: 6065, 6066, 6067, 6068, 6069, 6070,
6095, 6096, 6098

Operating Instructions

ACCESSORY SELECTION



WARNING!

To reduce the risk of injury, always unplug tool before attaching or removing accessories. Use only specifically recommended accessories. Others may be hazardous.

Sanding Disc and Grinding Wheel Selection

Use sanding discs and grinding wheels that are:

- correct size as written on tool's nameplate.
- correct wheel type and grit for the job.
- rated at or above the RPM on the tool's nameplate.

Use backing pads, adapters, and other accessories that are:

- correct size for tool and for sanding disc or grinding wheel.
- rated at or above the RPM listed in the "WARNING" section on the tool's nameplate.
- the proper accessory for the job.



WARNING!

To reduce the risk of personal injury and damage to the tool, use ONLY accessories rated at or above the RPM listed on the "WARNING" section of the tool's nameplate.

Grit selection

The lower the grit number, the coarser the sanding disc or grinding wheel is. Coarser sanding discs and grinding wheels should be used for rough sanding and grinding and finer sanding discs and grinding wheels should be used for finishing sanding and grinding.

Coarse grit sanding discs (grits of 60 and under) should be used only on welds and hammer marks. Sanding discs of

80-grit should produce a suitable finish on most steel.

Sanding Disc and Grinding Wheel Material

Sanding discs and grinding wheels are made of various materials and are designed for different jobs. Be sure that you choose the proper sanding disc or grinding wheel for the job you plan to do.

Care of Grinding Wheels

Grinding wheels should be protected from:

- wetness and extreme humidity.
- any type of solvent.
- extreme changes in temperature.
- dropping and bumping.

Grinding wheels should be stored:

- in an organized way so wheels can be removed without disturbing or damaging other wheels.
- with their safety information.

Grinding wheels should NOT be:

- dropped.
- rolled.
- bumped.

If any wheel is dropped, rolled, bumped, subjected to extreme changes in temperature, or has come into contact with solvents or wetness, discard wheel immediately.

Grinding Wheel Types

American National Standards Institute (ANSI) has developed a system of grinding wheel types. Each of these types has its own guard style that should be used with the wheel. Descriptions of the types that fit the *MILWAUKEE* grinders follow below.



WARNING!

To reduce the risk of injury, the operator should be instructed in the use, care and protection of grinding wheels.

Operating Instructions (continued)

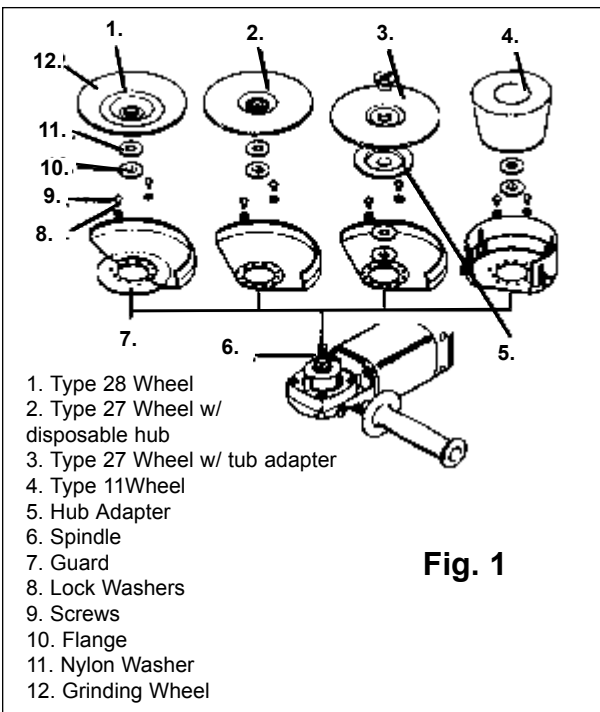
Grinding Wheel Types (Continued)

Type 27 grinding wheels are made with flat grinding surfaces and are designed for side grinding (when held at a slight angle to workpiece) as well as edge grinding (such as small cutting-off or notching operations).

Type 27 grinding wheels can have a disposable hub where the wheel is permanently attached to the threaded hub or they can have a standard arbor hole which needs a hub adapter to fix it to the spindle.

Type 28 grinding wheels are made with saucer-shaped grinding surfaces and are designed for side grinding (when held at a slight angle to workpiece).

Type 11 grinding wheels are cup-shaped wheels made with flat grinding surfaces (the rim of the cup) and are designed for side grinding (when held at a slight angle to workpiece).



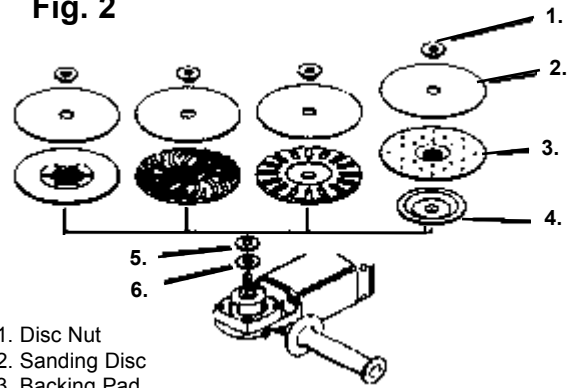
Installing Side Handle

Screw the side handle into gear case for right or left hand operation.

Installing Sanding Discs: (Fig. 2)

- Polypropylene Backing Pad Assembly,
- Spiral Design Backing Pad Assembly,
- Rubber Backing Pad Assembly, and
- Phenolic Disc Backing Pad Assembly

Fig. 2



1. Unplug tool and lay it on its tool rest.
2. Slip flange over spindle with flat side up.
Make sure that it slides all the way down over the squared off edges of the spindle.
3. Thread nylon washer all the way onto the spindle.
4. If installing the phenolic disc, slip smaller rubber pad onto spindle.
5. Slip backing pad onto spindle.
6. Place sanding disc on backing pad so that the hole is over the spindle.
7. Thread disc nut onto spindle threads.
8. Hold in spindle lock.

NOTE: You might have to rotate the backing pad and sanding disc while holding in the spindle lock to engage lock.

9. Hand-tighten backing pad, disc, and disc nut by holding outer edge of backing pad and disc and turning them clockwise.

Installing Grinding Wheels (Fig 3.)

1. Unplug tool and lay it on its tool rest.
2. Place the grinding wheel guard over spindle and fasten it to the lower half of the gear case with screws and lock washers provided.

NOTE: Guard should be attached to the grinder so that the operator is protected should the wheel break. The gray "operator zones" in Fig. 3 show the area protected by the guard. See the diagram below.

3. Slip flange over spindle with flat side up.
Make sure that it slides all the way down over the squared off edges of the spindle.

Operating Instructions (continued)

4. Thread nylon washer onto the spindle.



WARNING!

To reduce the risk of injury, guards should be in good functional condition. Guards that are damaged, bent, severely worn, or have been subjected to wheel breakage should be replaced.

If installing a type 27 wheel with a hub adapter:

- place hub adapter on spindle
- place wheel on hub adapter
- thread wheel nut onto spindle
- tighten nut onto spindle with spanner wrench

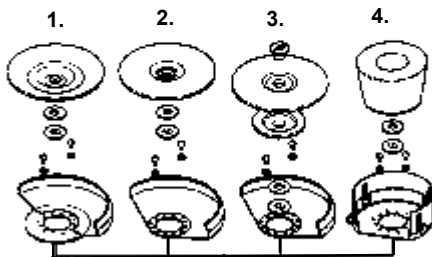
5. Thread grinding wheel onto spindle.
6. Press in spindle lock.

NOTE: You might have to rotate the grinding wheel while holding in the spindle lock to engage the lock.

7. Hand tighten grinding wheel onto spindle.

NOTE: With type 11 cup wheels, the guard's skirt needs to be adjusted so that no more than 1/8" of the wheel extends from the bottom of the guard.

Fig. 3

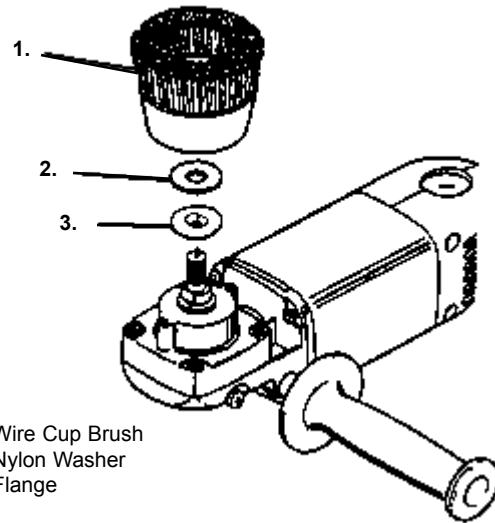


1. Type 28 Grinding Wheel
2. Type 27 Wheel with disposable hub
3. Type 27 Wheel with hub adapter
4. Type 11 Grinding Wheel

Installing Wire Cup Brushes (Fig. 4)

1. Unplug the tool and lay it on its tool rest.
 2. Slip flange over spindle with flat side up. Make sure that it slides all the way down over the squared-off edges of the spindle.
 3. Thread nylon washer onto the spindle.
 4. Thread wire cup brush onto the spindle.
 5. Press in spindle lock.
- Note:** You might have to rotate the wire cup brush while holding in the spindle lock to get the lock to engage.
6. Hand-tighten cup brush onto spindle.

Fig. 4



1. Wire Cup Brush
2. Nylon Washer
3. Flange



WARNING!

To reduce the risk of injury, **DO NOT** use wire cup brushes with a guard; they are designed to be used without guards.

Operating Instructions (continued)

OPERATION

Using the Trigger Lock Mechanism

The trigger lock button is on each tool in this manual. The lock button holds the trigger in the ON position for continuous full speed use.

1. To lock the trigger, hold the lock button in while pulling the trigger, then release the trigger.
2. To unlock the trigger, pull the trigger and release. The lock button will pop out.

Controlled Start and Line Lockout Features on 6095, 6096, and 6098.

Using AC

When used on 120 Volts AC, catalog numbers 6095, 6096, and 6098 have **controlled start and line lockout** features.

The **controlled start** feature reduces the torque reaction “jerk” when its trigger is pulled.

The **line lockout** feature prevents unintentional starting of a tool that has accidentally been left in the locked-ON position when voltage is restored to an interrupted line.

If the tool is plugged in with the trigger in the locked-ON position, the tool will not operate until the trigger is released and re-pulled.

If voltage is interrupted, such as during a power outage or accidental unplugging of the tool, the tool will not operate until trigger is released and re-pulled.



WARNING!

Controlled Start and Line Lockout features exist **ONLY** on catalog numbers 6095, 6096, and 6098. The other tools mentioned in this book **DO NOT** have the Controlled Start and Line Lockout features.



WARNING!

The Controlled Start feature on catalog numbers 6095, 6096, and 6098 **DOES NOT** work if tool is being used on DC.

Using DC With Controlled Start and Line Lockout

Before using your tool on 120 volts DC, you must set up tool for DC use.

Setting Up Tool for DC Use

The only tools that require set up are catalog numbers 6095, 6096, and 6098. The other tools in this catalog can be used on DC without any set up.

1. Plug in tool.
2. Pull trigger and hold for 5 seconds.
3. Release trigger.

The previous procedure must be repeated when the tool has been unplugged or there has been a voltage interruption such as a blackout.

The controlled start feature works only with AC. There will be initial torque when starting the tool while using DC, so be sure to hold tool firmly with both hands before starting the tool while using DC.



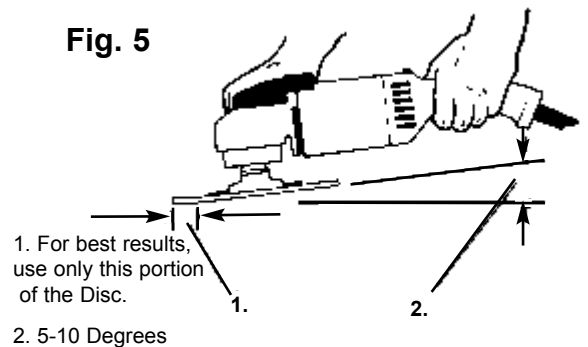
WARNING!

To reduce the risk of injury, **ALWAYS** hold tool firmly with both hands while sanding or grinding.

Sanding (Fig 5.)

1. Hold tool by both handles.
2. Pull trigger.
3. Allow sander to reach full speed before applying it to the workpiece.
3. Hold sander at a 5 to 10 degree angle to the work piece. See diagram to the right.
4. Sweep sander across workpiece in wide, even strokes while advancing it over the workpiece.

Fig. 5



Operating Instructions (continued)

General Sanding

Sweep sander faster on curved surfaces where contact area is smaller and pressure is greater.

Reduce pressure at the ends of the side to side strokes to avoid excessive sanding at end areas.

Use a stiffer backing pad when sanding over low spots. A soft backing pad will force the disc into the low spots making them even lower.

Finish Sanding

When finish sanding an area that has been coarse sanded, sweep the tool perpendicular to the coarse sanding sweeping marks.

Avoid excessive heat build up

Keep the sander moving across the workpiece so that heat build up is kept to a minimum. Excessive heat build up can cause premature wearing of the sanding disc, warpage of thin metal, and possible loss of temper on heat-treated metal.

Deep scratches may occur from:

- using too coarse a grit
- using a glazed disc
- having dirt or loose metal on the workpiece
- failing to finish sand perpendicular to the direction of the coarse sanding. See "Finish Sanding", above.
- failing to use closed-coated discs. Using closed-coated discs reduces the problem of loose sanding grains on the work surface.

Bluish discoloration of the metal surface indicates excessive heat which results from:

- not enough movement of sanding disc across work piece
- circular motion in a small area
- excessive pressure
- use of worn or glazed discs

Grinding



To reduce the risk of injury:

- **ALWAYS use the proper guard.**
- **ALWAYS properly install the guard.**
- **ALWAYS place the tool on the tool rest when not in use.**
- **ALWAYS hold the tool firmly with both hands before beginning grinding.**
- **NEVER use a wheel that has been dropped. NEVER bang grinding disc onto work.**
- **NEVER grind without proper safety equipment.**

1. Pull trigger and allow the tool to reach full speed.
2. If you have just installed a grinding wheel or are just beginning a period of work, test wheel by letting it spin for one minute before applying it to the workpiece.

Note: Out-of-balance wheels can mar workpiece, damage the tool, and cause stress to wheel that may cause wheel failure.

2. Gently apply wheel to workpiece.

Avoid excessive heat build up

Keep the grinder moving across the workpiece so that heat build up is kept to a minimum. Excessive heat buildup can cause premature wearing of the grinding wheel, warpage of thin metal, and possible loss of temper on heat-treated metal.

Wire Brushing



To reduce the risk of injury, ALWAYS wear safety goggles and protective clothing when using cup brushes. NEVER use a guard with cup brushes.

1. Pull trigger and allow the tool to reach full speed.
2. If you have just installed a wire brush or are just beginning a period of work, test the brush by letting it spin for one minute before applying it to the workplace.
3. Gently apply wire brush to workpiece.