



OPERATOR'S MANUAL
MANUEL de L'UTILISATEUR
MANUAL del OPERADOR

Catalog No.
No de Cat.
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5936

GENERAL SAFETY RULES



WARNING!

READ AND UNDERSTAND ALL INSTRUCTIONS

Failure to follow all instructions listed below, may result in electric shock, fire and/or serious personal injury.

SAVE THESE INSTRUCTIONS

WORK AREA

1. Keep your work area clean and well lit. Cluttered benches and dark areas invite accidents.
2. Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. Power tools create sparks which may ignite the dust or fumes.
3. Keep bystanders, children, and visitors away while operating a power tool. Distractions can cause you to lose control. Protect others in the work area from debris such as chips and sparks. Provide barriers or shields as needed.

ELECTRICAL SAFETY

4. Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adaptor plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. If the tools should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user.
5. Double Insulated tools are equipped with a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. Do not change

the plug in any way. Double insulation eliminates the need for the three wire grounded power cord and grounded power supply system

6. Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is grounded.
7. Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
8. Do not abuse the cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately. Damaged cords increase the risk of electric shock.
9. When operating a power tool outside, use an outdoor extension cord marked "W-A" or "W". These cords are rated for outdoor use and reduce the risk of electric shock

PERSONAL SAFETY

10. Stay alert, watch what you are doing, and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating power tools may result in serious personal injury.
11. Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts.

12. Avoid accidental starting. Be sure switch is off before plugging in. Carrying tools with your finger on the switch or plugging in tools with the switch on invites accidents.

13. Remove adjusting keys or wrenches before turning the tool on. A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.

14. Do not overreach. Keep proper footing and balance at all times. Proper footing and balance enables better control of the tool in unexpected situations.

15. Use safety equipment. Always wear eye protection. Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

TOOL USE AND CARE

16. Use clamps or other practical way to secure and support the workpiece to a stable platform. Holding the work by hand or against your body is unstable and may lead to loss of control.

17. Do not force tool. Use the correct tool for your application. The correct tool will do the job better and safer at the rate for which it is designed.

18. Do not use tool if switch does not turn it on or off. Any tool that cannot be controlled with the switch is dangerous and must be repaired

19. Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool. Such preventive safety measures reduce the risk of starting the tool accidentally.

20. Store idle tools out of reach of children and other untrained persons. Tools are dangerous in the hands of untrained users.

21. Maintain tools with care. Keep cutting tools sharp and clean. Properly maintained tools with sharp cutting edge are less likely to bind and are easier to control. Do not use a damaged tool. Tag damaged tools "Do not use" until repaired.

22. Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using. Many accidents are caused by poorly maintained tools.

23. Use only accessories that are recommended by the manufacturer for your model. Accessories that may be suitable for one tool, may become hazardous when used on another tool.

SERVICE

24. Tool service must be performed only by qualified repair personnel. Service or maintenance performed by unqualified personnel could result in a risk of injury.

25. When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance section of this manual. Use of unauthorized parts or failure to follow Maintenance Instructions may create a risk of electric shock or injury

SPECIFIC SAFETY RULES

1. Hold tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord. Contact with a "live" wire will make exposed metal parts of tool "live" and shock the operator.
2. Maintain labels and nameplates. These carry important information. If unreadable or missing, contact a MILWAUKEE service facility for a free replacement.
3. **WARNING!** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
 - lead from lead-based paint
 - crystalline silica from bricks and cement and other masonry products, and
 - arsenic and chromium from chemically-treated lumber.
 Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specifically designed to filter out microscopic particles.

Symbology

	Double Insulated
	Canadian Standards Association
	Underwriters Laboratories, Inc.
	Volts Alternating/ Direct Current
SFPM	Speed Feet per Minute
A	Amperes

Specifications

Cat. No.	Belt Size	Volts AC/DC	Amps	Speed feet/min.
5936	4" x 24"	120	10	1400

GROUNDING

WARNING!

Improperly connecting the grounding wire can result in the risk of electric shock. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the tool. Never remove the grounding prong from the plug. Do not use the tool if the cord or plug is damaged. If damaged, have it repaired by a **MILWAUKEE** service facility before use. If the plug will not fit the outlet, have a proper outlet installed by a qualified electrician.

The grounding prong in the plug is connected through the green wire inside the cord to the grounding system in the tool. The green wire in the cord must be the only wire connected to the tool's grounding system and must never be attached to an electrically "live" terminal.

Your tool must be plugged into an appropriate outlet, properly installed and grounded in accordance with all codes and ordinances. The plug and outlet should look like those in Figure A.

Double Insulated Tools:

Tools with Two Prong Plugs

Tools marked "Double Insulated" do not require grounding. They have a special double insulation system which satisfies OSHA requirements and complies with the applicable standards of Underwriters Laboratories, Inc., the Canadian Standard Association and the National Electrical Code. Double insulated tools may be used in either of the 120 volt outlets shown in Figures B and C.

Grounded Tools:

Tools with Three Prong Plugs

Tools marked "Grounding Required" have a three wire cord and three prong grounding plug. The plug must be connected to a properly grounded outlet (See Figure A). If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user, reducing the risk of electric shock.

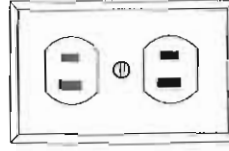


Fig. B

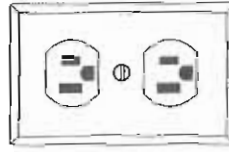


Fig. C

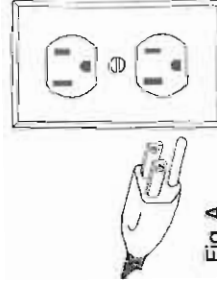


Fig. A

TOOL ASSEMBLY



WARNING!

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

Installing Dust Bag

The belt sander is equipped with a large dust bag for constant, powerful dust collection.

1. To install the dust bag, line up the slot in the dust tube at the end of the bag with the pin inside the dust bag hole in the rear of the sander.
2. Slide dust tube into dust bag hole.
3. To secure, twist dust tube 1/4 turn towards the sander.
4. To remove the dust bag, twist the dust tube 1/4 turn away from the sander and slide the tube out of the hole.

OPERATION



WARNING!

To reduce the risk of injury, wear safety goggles or glasses with side shields. Unplug the tool before changing accessories or making adjustments.

Selecting Sanding Belts

It is very important to select the proper sanding belt for each job. There are two types of sanding belts: closed coat and open coat. The surface of a closed coat belt is densely covered with as much grit as the adhesive will hold. On an open coat

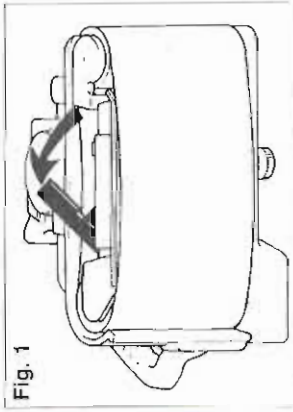
belt, the grit is applied evenly, but openly to the surface. An open coat belt will not clog or fill as readily as a closed coat belt. Refer to the chart below to select the right belt for your job.

Application	Coat	Grit		
		Coarse: for fast sanding	Medium: for smoothing	Fine: for finishing
General purpose sanding	Open or Closed	36-50	60-100	120-220
Sanding fiberglass, plastic, stone, marble, glass, aluminum, cast iron, copper, solder and other non-ferric materials.	Open	36-50	60-100	120-220
Removing paint or varnish.	Open	36-50	60-100	120-220

Installing and Removing Sanding Belts

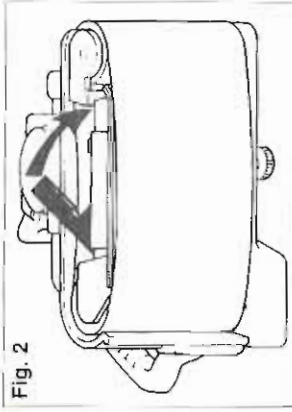
1. Unplug the sander and place it on its side.
2. To remove the belt, pull the release lever out toward the rear roller until it snaps into position. Slide the belt off the rollers (Fig. 1).

Fig. 1



3. To install a belt, slide the belt over the rollers and push the release lever in toward the front roller (Fig. 2).

Fig. 2



Starting and Stopping the Sander

1. Plug in the tool.
2. To start the sander, squeeze the trigger.
3. To stop the sander, release the trigger.

Locking the Trigger

The lock button locks the trigger for continuous sanding.

1. To lock the trigger, hold in the lock button while squeezing the trigger. Release the trigger and it will lock in place.
2. To release the lock button, squeeze and release the trigger. The lock button will disengage.

Tracking Belt

The belt edge should always be even with the edge of the base plate.

1. Rest the sander on the housing behind the rear roller. Be sure the rollers and belt are clear of the bench top and power cord.
2. To move the belt to the outside, squeeze the trigger and turn the tracking knob toward the rear roller.
3. To move the belt to the inside, squeeze the trigger and turn the tracking knob toward the front roller.

NOTE: Moving the belt too far causes sparks as the belt rubs against the wear bar.



WARNING!

Keep hands and clothing away from moving belt.

Sanding

1. Be sure the cord is clear of the belt. Grasp the handles firmly.
 2. Start the sander off of the work surface to avoid gouging.
 3. Keeping the sander level, begin the sanding stroke as you lower the sander to the work surface.
 4. Use short, overlapping strokes, moving the sander slowly back and forth across the work surface.
 5. Avoid tilting or rocking the sander or sanding in one spot for too long. This causes gashes and hollows in the surface.
 6. Do not apply pressure to the sander. The sander is weighted for the amount of pressure needed. Adding pressure may cause gouging.
- To stop, lift the sander from the work surface before turning it off. Disengage the lock button. Allow the sander to come to a complete stop before setting it down. A moving belt will cause the sander to "run away" even if the motor is off.

See the "Applications" section for special techniques in a variety of situations.

Emptying the Dust Bag

Empty the dust bag when it is about 3/4 full.

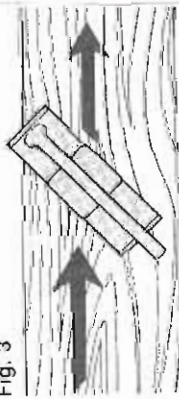
To empty the dust bag, remove the dust bag from the sander.

APPLICATIONS

Finishing Wood

To level a rough surface quickly, use a coarse grit belt. Firmly hold the sander at an angle to the grain, moving it with the grain (Fig. 3). Work the entire surface with overlapping strokes

Fig. 3



For a very fine surface, change belts two or three times, using a finer grit belt each time. Hold the sander parallel to the grain and work the entire surface with each grit belt (Fig. 4). Move with the grain to remove scratches left by the coarse belts. Always finish your work by sanding with the grain.

Fig. 4



Be careful not to run off the end of the wood; this will round the edge. Always keep the sander flat against the work surface.

Sanding Doors and Trim

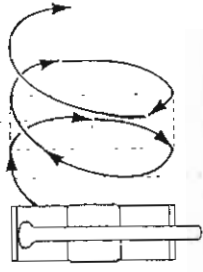
When sanding doors, trim, and other millwork, be careful not to sand the cross grain at the joints where the direction of the grain changes

2. Unzip the zipper and shake the bag over a wastebasket.

3. Occasionally, slip the bag off of the wire frame and turn it inside out. Brush dust from the lining with a soft brush to allow the bag to "breathe" better.

Finishing Metal, Plastics and Stone (Fig. 5)

Fig. 5



Use a sweeping circular movement across the entire surface, overlapping strokes for an even finish. For a fine finish, change belts two or three times, using a finer grit each time. Do not use oil or other coolants; the belt will throw the liquid and contaminate the tool.

Removing Paint or Varnish

When removing several layers of paint or varnish, remove as much as possible with a pint solvent or varnish remover. Scrape the residue away and allow the surface to dry thoroughly before sanding.

Select a coarse grit, open coat belt to prevent clogging. Use short backward strokes, lifting the sander quickly at the end of each stroke to avoid burning the coating and clogging the belt. Start each stroke in a new area. As the base begins to show through the coating, switch to a medium grit to avoid scratching the surface of the base.

MAINTENANCE

WARNING!

To reduce the risk of injury, always unplug your tool before performing any maintenance. Never disassemble the tool or try to do any rewiring on the tool's electrical system. Contact a MILWAUKEE service facility for ALL repairs.

Maintaining Tools

Keep your tool in good repair by adopting a regular maintenance program. Before use, examine the general condition of your tool. Inspect guards, switches, tool cord set and extension cord for damage. Check for loose screws, misalignment, binding of moving parts, improper mounting, broken parts and any other condition that may affect its safe operation. If abnormal noise or vibration occurs, turn the tool off immediately and have the problem corrected before further use. Do not use a damaged tool. Tag damaged tools "DO NOT USE" until repaired (see "Repairs").

Under normal conditions, relubrication is not necessary until the motor brushes need to be replaced. After six months to one year, depending on use, return your tool to the nearest MILWAUKEE service facility for the following:

- Lubrication
- Brush inspection and replacement
- Mechanical inspection and cleaning (gears, spindles, bearings, housing, etc.)
- Electrical inspection (switch, cord, armature, etc.)
- Testing to assure proper mechanical and electrical operation

Vacuum System

Vacuum system failure may occur when the sander is clogged with dust. To remove the dust, remove the dust bag from the sander. Force air into the opening where the bag was attached. Air can also be forced into the opening behind the rear roller underneath the sander. If the vacuum system still fails to work, it may be clogged with a foreign object. Should this happen,

return the entire sander to a MILWAUKEE service facility for repair. Do not disassemble the sander.

Cleaning

Clean dust and debris from vents. Keep the tool handles clean, dry and free of oil or grease. Use only mild soap and a damp cloth to clean your tool since certain cleaning agents and solvents are harmful to plastics and other insulated parts. Some of these include: gasoline, turpentine, lacquer thinner, paint thinner, chlorinated cleaning solvents, ammonia and household detergents containing ammonia. Never use flammable or combustible solvents around tools

WARNING!

To reduce the risk of injury, electric shock and damage to the tool, never immerse your tool in liquid or allow a liquid to flow inside the tool.

Repairs

If your tool is damaged, return the entire tool to the nearest service center listed on the back cover of this operator's manual.

EXTENSION CORDS

Grounded tools require a three wire extension cord. Double insulated tools can use either a two or three wire extension cord. As the distance from the supply outlet increases, you must use a heavier gauge extension cord. Using extension cords with inadequately sized wire causes a serious drop in voltage, resulting in loss of power and possible tool damage. Refer to the table shown to determine the required minimum wire size.

The smaller the gauge number of the wire, the greater the capacity of the cord. For example, a 14 gauge cord can carry a higher current than a 16 gauge cord. When using more than one extension cord to make up the total length, be sure each cord contains at least the minimum wire size required. If you are using one extension cord or more than one tool, add the nameplate amperes and use the sum to determine the required minimum wire size.

Guidelines for Using Extension Cords

- If you are using an extension cord outdoors, be sure it is marked with the suffix "W-A" ("W" in Canada) to indicate that it is acceptable for outdoor use.
- Be sure your extension cord is properly wired and in good electrical condition. Always replace a damaged extension cord or have it repaired by a qualified person before using it.
- Protect your extension cords from sharp objects, excessive heat and damp or wet areas.

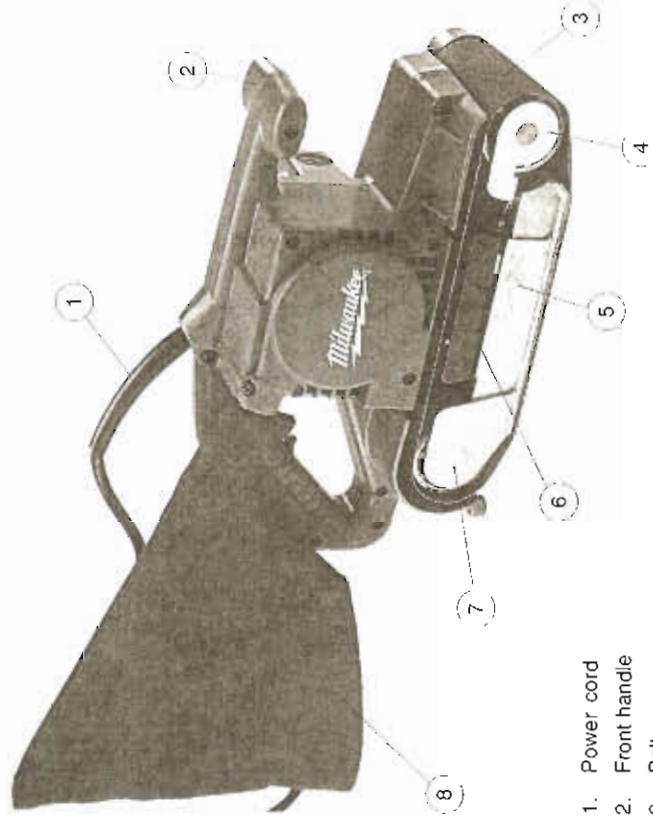
Recommended Minimum Wire Gauge for Extension Cords*

Nameplate Amperes	25'	50'	75'	100'	150'
0 - 2.0	18	18	18	18	16
2.1 - 3.4	18	18	18	16	14
3.5 - 5.0	18	18	16	14	12
5.1 - 7.0	18	16	14	12	12
7.1 - 12.0	16	14	12	10	
12.1 - 16.0	14	12	10		
16.1 - 20.0	12	10			

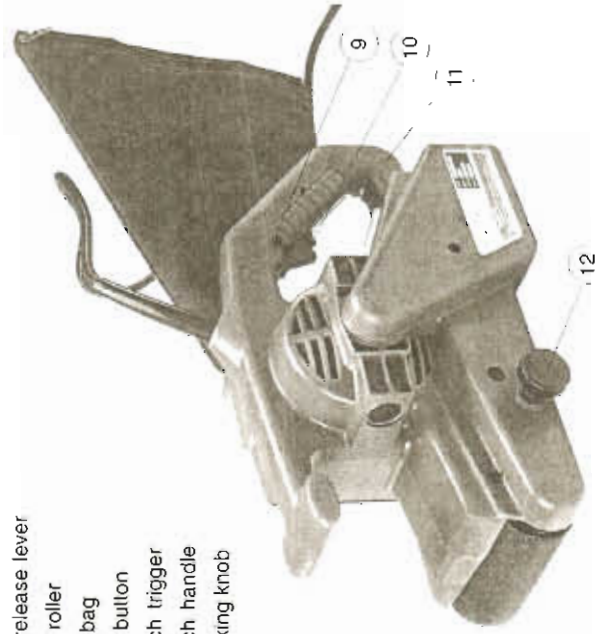
* Based on limiting the line voltage drop to five volts at 150% of the rated amperes.

READ AND SAVE ALL INSTRUCTIONS FOR FUTURE USE.

FUNCTIONAL DESCRIPTION



1. Power cord
2. Front handle
3. Belt
4. Front roller
5. Base plate
6. Belt release lever
7. Rear roller
8. Dust bag



9. Lock button
10. Switch trigger
11. Switch handle
12. Tracking knob