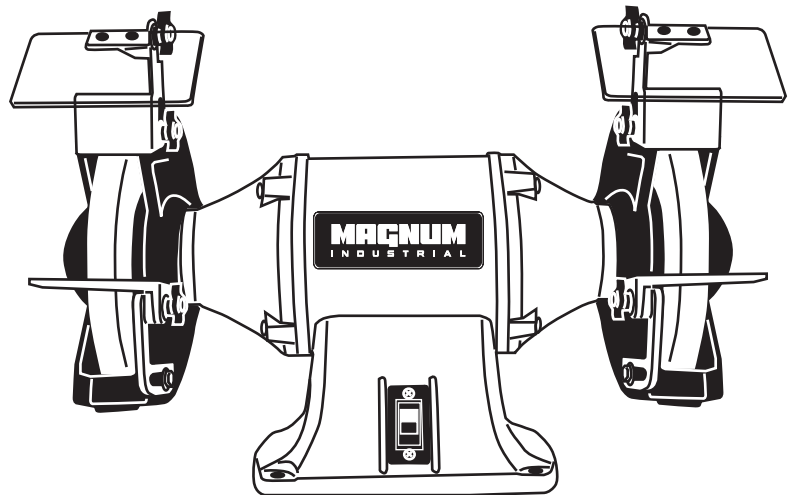


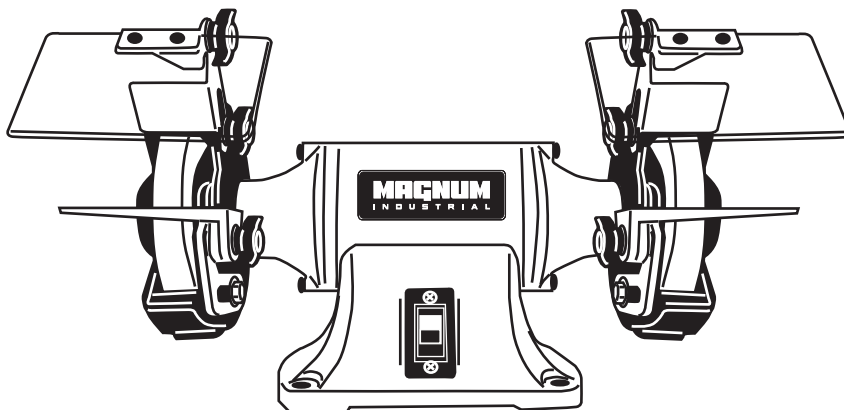
MAGNUM

INDUSTRIAL

**MODEL NO.: MI-15300 、 MI15350 、
MI-15450**



MI-15450_10 " BENCH GRINDER



MI-15300 & MI-15350_8 " BENCH GRINDER

OPERATING MANUAL

Description

MAGNUM Bench Grinders are equipped with a totally enclosed ball bearing motor. Armature assembly is dynamically balanced for smooth operation. Motor housing is compact so long pieces of work can rest against both wheels without touching the motor frame. Removable wheel guards allow for easy changing of wheels. Tool rests are adjustable for wheel wear and angle grinding. Grinders come complete with spark guards, safety eyeshields and dust collection hose.

Unpacking

Check for shipping damage. If damage has occurred, a claim must be filed with the carrier immediately. Check for completeness. Immediately report missing parts to dealer.

Specifications

Model	HP	RPM	AMPS	Volts	Hz
MI-15300	3/4	3600	6.5	115 / 230	60
MI-15350	3/4	3600	7.0/3.5	115 / 230	60
MI-15450	1	1725	10.0/5.0	115 / 230	60

ALUMINUM OXIDE VITRIFIED WHEELS

GRIT

1 ea. 36 Coarse and 1 ea. 60 Medium SIZES

MI-15300 : 8 Dia., 1 " Face, 5/8" Bore 8"

MI-15350 : 8 Dia., 1 " Face, 5/8" Bore 8"

MI-15450 : 10" Dia., 1 " Face, 1" Bore

General Safety Information

WARNING For your own safety, read operating instructions manual before operating tool.

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:

1. Lead from lead-based paints.
2. Crystalline silica from bricks and cement and other masonry products.
3. Arsenic and chromium from chemically-treated lumber.

Your risk from these exposures vary, 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. Always wear **OSHA/NIOSH** approved, properly fitting face mask or respirator when using such tools.

BE PREPARED FOR JOB

1. Wear proper apparel. Do not wear loose clothing, gloves, neckties, rings, bracelets or other Jewelry which may get caught in moving parts of machine.
2. Wear protective hair covering to contain long hair.
3. Wear safety shoes with non-slip soles.
4. Wear safety glasses complying with United States ANSI Z87.1. Everyday glasses have only impact resistant lenses. They are NOT safety glasses.
5. Wear face mask or dust mask if operation is dusty.
6. Be alert and think clearly. Never operate power tools when tired, Intoxicated or when taking medications that cause drowsiness.

PREPARE WORK AREA FOR JOB

1. Keep work area clean. Cluttered work areas and work benches invite accidents.

2. Do not use power tools in dangerous environments. Do not use power tools in damp or wet locations. Do not expose power tools to rain.
3. Work area should be properly lighted.
4. Proper electrical plug should be plugged directly into properly grounded, three-prong receptacle.
5. Extension cords should have a grounding prong and the three wires of the extension cord should be of the correct gauge.
6. Keep visitors at a safe distance from work area.
7. Keep children out of the workplace. Make workshop childproof. Use padlocks, master switches or remove switch keys to prevent any unintentional use of power tools.

TOOL SHOULD BE MAINTAINED

1. Always unplug tool prior to inspection.
2. Consult manual for specific maintaining and adjusting procedures.
3. Keep tool clean for safest operation.
4. Remove adjusting tools. Form habit of checking to see that adjusting tools are removed before turning machine on.
5. Keep all parts in working order. Check to determine that the guard or other parts will operate properly and perform their intended function.
6. Check for damaged parts. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other condition that may affect a tool's operation.
7. A guard or other part that is damaged should be properly repaired or replaced. Do not perform makeshift repairs. (Use the parts list to order repair parts.)

General Safety Information (Continued)

KNOW HOW TO USE TOOL

1. Use right tool for job. Do not force tool or attachment to do a job for which it was not designed.
2. Disconnect tool from power when changing accessories such as grinding wheels, buffing wheels and the like.
3. Avoid accidental start-up. Make sure that the switch is in the OFF position before plugging in.
4. Do not force tool. It will work most efficiently at the rate for which it was designed.
5. Keep hands away from moving parts and grinding surfaces.
6. Never leave a tool running unattended. Turn the power off and do not leave tool until it comes to a complete stop.
7. Do not overreach. Keep proper footing and balance.
8. Never stand on tool. Serious injury could occur if tool is tipped over.
9. Know your tool. Learn the tool's operation, application and specific limitations.
10. Use recommended accessories. Understand and obey all safety instructions supplied with accessories. The use of improper accessories may cause risk of injury to persons.
11. Do not over tighten wheel nut. A cracked wheel immediately. Use only flanges supplied with the grinder.
12. Adjust distance between wheel and tool rest to maintain 1/16" or less "deb
13. Handle the workpiece correctly. Whenever possible, use tool rest to support workpiece during grinding operation. Turn tool off if it jams.
14. Always use guards and eyeshields.
15. Clean grinding dust from beneath tool frequently.

Assembly

Parts to be fastened to the unit should be located and accounted for (See List and Figure 1).

IMPORTANT: Do not attempt assembly if parts are missing. Use this manual to order repair parts.

- A 3/8-16 x 3/4" Hex bolt, 2 each
 - B 3/8" Flat washer, 4 each
 - C Tool rest bracket (left & right), 2 each
 - D Tool rest (left & right), 2 each
 - E 5/16" Flat washer, 2 each
 - F 5/16-18 x 1" Knob, 2 each
 - G #10-24 x 1/2" Pan head screw, 4 each
 - H Upper eyeshield bracket, 2 each (left and right)
 - I Eyeshield, 2 each
 - J Lower eyeshield bracket, 2 each
 - K 3/8" Lock washer, 2 each
 - L 1/4-20 x 3/8" Knob, 2 each
 - M Spark guard (left and right), 2 each
 - N 3/8-16 x 1/2" Knob, 2 each
- Dust collector hose not shown.

TOOL REST ASSEMBLY

1. Place tool rest (D) over tool rest bracket and secure in position with 5/16" flat washer (E) and 5/16-18 x 1" knob (F).
2. Attach tool rest bracket to the bottom of the left wheel guard using one 3/8-16 x 3/4" hex head bolt (A) and one 3/8" flat washer (B). Make sure that the slot of the bracket is located over the raised boss on the guard. Tighten bolts finger tight.
3. Position tool rest so that distance between tool rest and grinding wheel is less than 1/16". Reposition angle of tool rest if necessary. Secure all knobs and bolts.
4. Mount right tool rest in a similar manner.

EYESHIELD ASSEMBLY

1. Attach spark guard (M) to left wheel guard using 3/8-16 x 1/2" knob (N). 3/8" flat washer (B) and 3/8" lock washer (K).
 2. Mount left upper eyeshield bracket (H) to eyeshield (I) using two #10-24 x 1/2" pan head screws (G) and lower eyeshield bracket (J).
- NOTE:** Left upper eyeshield bracket is stamped "L" for identification.
3. Slide 1/4-20 x 3/8" knob (L) through hole at top of left spark guard (M) into upper eyeshield bracket (H) and secure in position.

Assembly (Continued)

4. Locate eyeshield in desired position for protecting operator and secure all knobs and bolts.
5. Mount right eyeshield assembly in a similar manner.

DUST COLLECTOR HOSE

A dust collector hose has been provided with grinder. Slide hoses onto sides of T-connector and flanges. Mount the hose by sliding the flanges at each end over the exhaust ports on the left and right wheel guards. Attach 2-1/2" shop vacuum hose to collector hose. Be sure hose is mounted securely.

DANGER Be sure to empty shop vacuum of all flammable material (flammable liquids and vapors, paper, wood, plastic, etc.) before connecting vacuum to grinder. Hot sparks from grinder may ignite flammable materials in shop vacuum. **OPTIONAL LIGHTED EYESHIELD**

Position eyeshield bracket assembly over bosses provided on wheel guard. Bosses are tapped to

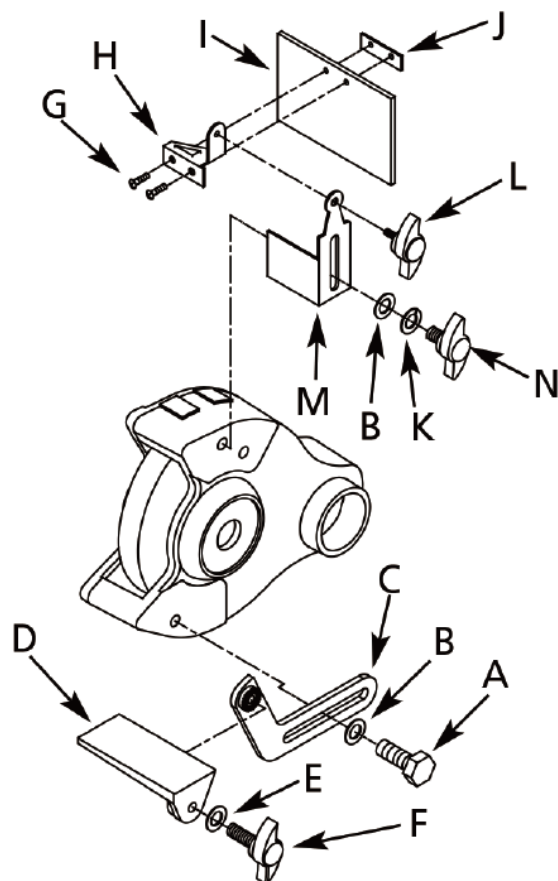


Figure 1- Left Tool Rest and Eyeshield Assembly

receive two 1/4"- 20 screws. Fasten bracket assembly to wheel guard with two screws provided with eyeshields.

Installation

MOUNT GRINDER

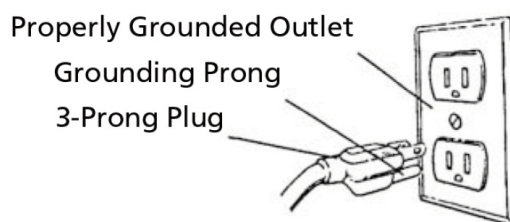
1. Mount grinder to a solid horizontal surface (hardware not provided). If mounted to metal pedestal, align mounting holes with corresponding holes in pedestal. Insert a 1/4-20 x 1 1/2" hex head bolt with flat washer through base of grinder. From bottom of pedestal, place a 1/4" flat washer and 1/4"-20 hex nut onto the bolt. Tighten only until space between grinder base and pedestal is 1/8" (base should be flush for MI-15450). Using second nut on each bolt, jam tighten against the first to prevent loosening by vibration.
2. To mount grinder to wooden bench top, use 1/4 x 14" wood screws with flat washers beneath heads. Tighten screws until space between grinder base and bench top is 1/8" (base should be flush for MI-15450).

GROUNDING INSTRUCTIONS

WARNING Improper connection of equipment grounding conductor can result in the risk of electrical shock. Equipment should be grounded while in use to protect operator from electrical shock.

Check with a qualified electrician if grounding instructions are not understood or if in doubt as to whether the tool is properly grounded. This grinder is equipped with an approved 3-conductor cord rated at 300V and a 3-prong, grounding type plug (See Figure 2) for your protection against shock hazards. Grounding plug should be plugged directly into a properly installed and grounded 3-prong grounding-type receptacle (See Figure 2).

Figure 2 - 3-Prong Receptacle



Do not remove or alter grounding prong in any manner. In the event of a malfunction or breakdown, grounding provides a path of least resistance for electrical shock.

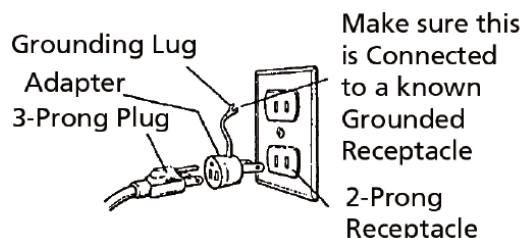
WARNING Do not permit fingers to touch the terminals of plug when installing or removing from outlet.

Plug must be plugged into matching outlet that is properly installed and grounded in accordance with all local codes and ordinances. Do not modify plug provided. If it will not fit in outlet, have proper outlet installed by a qualified electrician. Inspect tool cords periodically, and, if damaged, have repaired by an authorized service facility. Green (or green and yellow) conductor in cord is the grounding wire. If repair or replacement of the electric cord or plug is necessary, do not connect the green (or green and yellow) wire to a live terminal. Where a 2-prong wall receptacle is encountered, it must be replaced with a properly grounded 3-prong receptacle installed in accordance with National Electric Code and local codes and ordinances.

WARNING This work should be performed by a qualified electrician.

A temporary 3-prong to 2-prong grounding adapter (See Figure 3) is available for connecting plugs to a two pole outlet if it is properly grounded.

Figure 3- 2-Prong Receptacle



Do not use a 3-prong to 2-prong grounding adapter unless permitted by local and national codes and ordinances.

Installation (Continued)

(A 3-prong to 2-prong grounding adapter is not permitted in Canada.) Where permitted, the rigid green tab or terminal on the side of the adapter must be securely connected to a permanent electrical ground such as a property grounded water pipe, a properly grounded outlet box or a properly grounded wire system. Many cover plate screws, water pipes and outlet boxes are not properly grounded. To ensure proper ground, grounding means must be tested by a qualified electrician.

EXTENSION CORDS

1. The use of any extension cord will cause some drop in voltage and loss of power.
2. Wires of the extension cord must be of sufficient size to carry the current and maintain adequate voltage.
3. Running the unit on voltages which are not within $\pm 10\%$ of the specified voltage may cause overheating and motor burn-out.
4. Use the table to determine the minimum wire size (A.W.G.) extension cord.
5. Use only 3-wire extension cords having 3-prong grounding type plugs and 3-pole receptacles which accept the tool plug.
6. If the extension cord is worn, cut or damaged in any way, ace it immediately.

EXTENSION CORD LENGTH FOR 2LKR9

Wire Size	A.W.G.
Up to 25 ft.	18.

NOTE: Using extension cords over 25 ft. long is not recommended.

EXTENSION CORD LENGTH FOR MODEL MI-15450

Wire Size	A.W.G.
Up to 25 ft.	16

NOTE: Using extension cords over 25 ft. long is not recommended.

ELECTRICAL CONNECTIONS

WARNING All electrical connections must be performed by a qualified electrician. Make sure tool is off and disconnected from power source while motor is mounted, connected, reconnected or anytime wiring is inspected.

Motor and wires are installed as shown in wiring diagram (See Figure 4). Motor is assembled with approved, 3-conductor cord to be used at 115/230 volts. Motor is prewired at the factory for 115 volts. To use the grinder with a 230V power supply, have a qualified electrician rewire motor and attach a 230 volt, 15A three-prong plug onto grinder line cord.

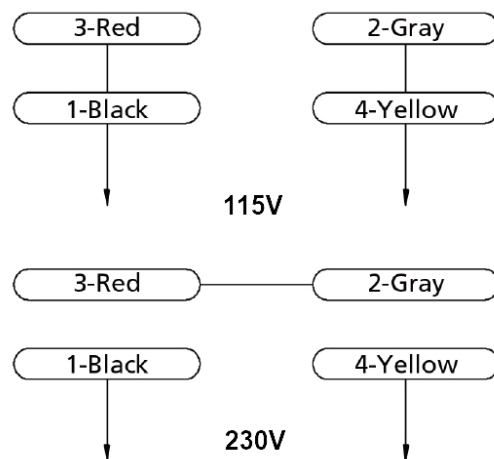


Figure 4 - Wiring Diagram

Operation

WARNING Always wear safety glasses complying with United States ANSI 287.1 (shown on package) before commencing power tool operation. Safety glasses are available through your Grainger catalog.

1. Keep a steady, moderate pressure on the work and keep it moving at an even pace for smooth grinding.
2. Pressing too hard overheats the motor and prematurely wears down the grinding wheels.

3. Note the original bevel angle on the item to be sharpened and try to maintain that angle.
Sharpening a cutting edge requires removing burrs from edge.
4. Deburring edge is done best by using the grinder to pull burr from edge across the bevel angle.
5. The grinding wheel should rotate into object being sharpened.
6. Dip work into a coolant regularly to prevent overheating. Overheating can weaken metals.

Maintenance

1. As wheels wear, tool rests should be positioned closer to the face of the wheels.
2. The gap between the wheel and the tool rest should not be greater than 1/16". When the wheels are worn to the extent that the 1/16" maximum gap cannot be maintained, the wheels should beaced.
3. Models MI-15300 and MI-15350 : acement wheels should have a minimum rated speed of at least 3600 RPM. Model MI-15450 : acement wheels must have a minimum rated speed of 1800 RPM.
4. Maximum wheel diameter is 8" for MI-15300 / MI-15350. and 10" for MI-15450.

Troubleshooting Chart

Symptom	Possible Cause(s)	Corrective Action
Grinder won't start	<ol style="list-style-type: none"> 1. Blown line fuse or tripped circuit breaker 2. Low line voltage 3. Material wedged between wheel and guard 4. Defective switch 5. Defective, blown capacitor 	<ol style="list-style-type: none"> 1. If fuse is blown, ace with fuse of proper size. If breaker tripped, reset it 2. Check power supply for voltage and correct as needed 3. Turn grinder off and remove material 4. Replace switch 5. Replace capacitor
Excessive vibration	<ol style="list-style-type: none"> 1. Improper mounting of grinder or accessories 2. Grinding wheel out of balance 3. Improper wheel mounting 	<ol style="list-style-type: none"> 1. Remount 2. Dress wheels or replace wheels 3. Remount wheels, but rotate one wheel 90° with respect to its previous position. Other wheel should remain in its original position
Motor overheating	<ol style="list-style-type: none"> 1. Excess pressure required to grind material 2. Grinding on side of wheel 3. Motor not turning freely (without power) 	<ol style="list-style-type: none"> 1. Dress wheel or replace wheel with one of proper grit 2. Grind only on face of wheel 3. Clean around wheels and shaft and/or replace bearings
Fuses are being or circuit breakers are being tripped	<ol style="list-style-type: none"> 1. Overloading due to binding 2. Defective plug 3. Defective cord 4. Defective switch 5. Motor wired for different line voltage 6. Faulty internal wiring 	<ol style="list-style-type: none"> 1. Clean around wheels and shaft and/or replace bearings 2. Replace plug 3. Replace cord 4. Replace switch 5. Rewire motors as per line voltage (See Electrical Connections, page 4) 6. Contact authorized MAGNUM Service Center

PARTS LIST FOR MI-15300 & MI-15350

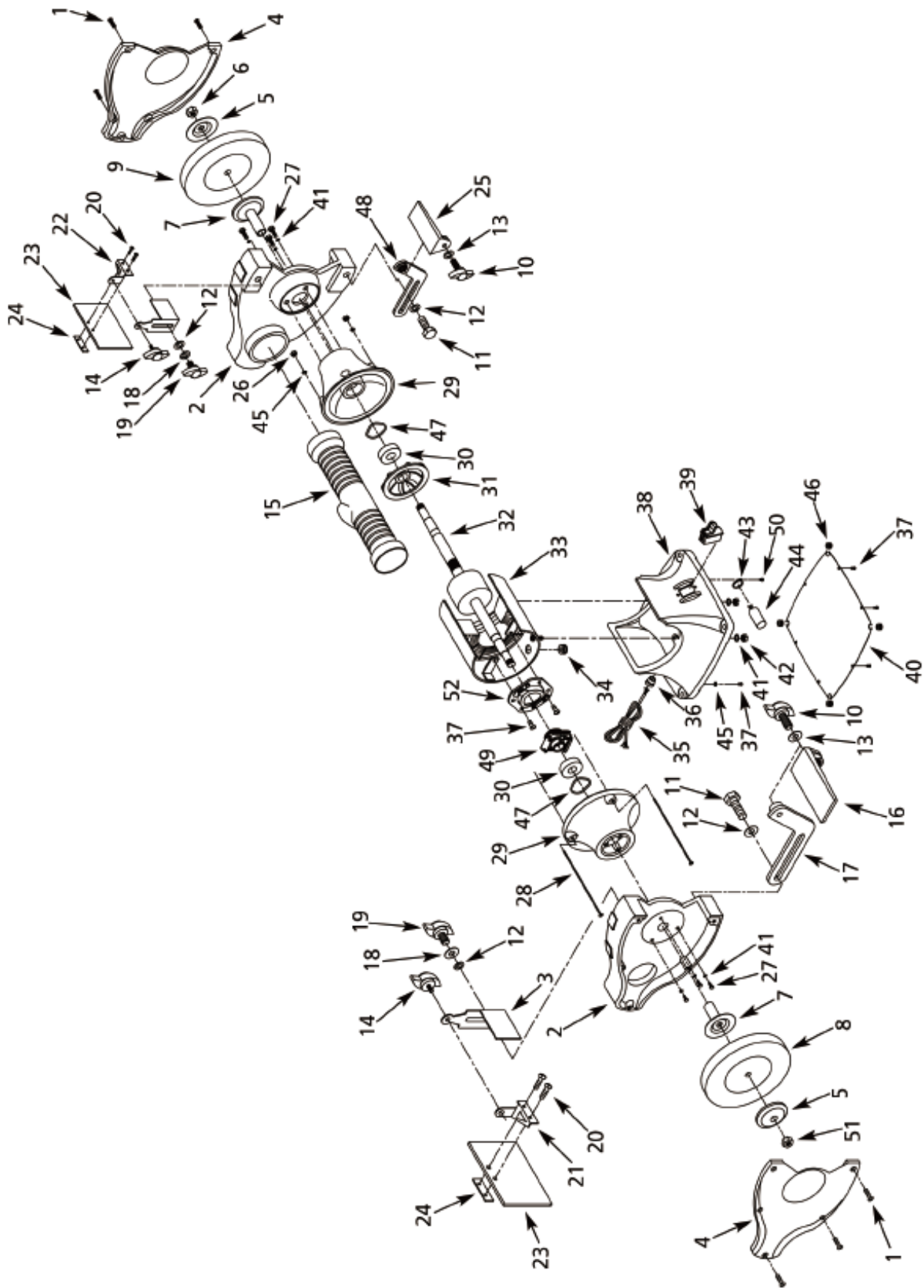


Figure 5 - Repair Parts Illustration for 7 and 8" Bench Grinders

PARTS LIST FOR MI-15300 & MI-15350

ITEM NO.	DESCRIPTION	Q'ty	ITEM NO.	DESCRIPTION	Q'ty
MI-15300-01	#10-24 x 3/4" Pan head screw	10	MI-15300-33	Stator with housing (4 POLE)	1
MI-15300-02	Wheel guard	2	MI-15350-33	Stator with housing (2 POLE)	1
MI-15300-03	Spark guard (set of 2)	1	MI-15300-34	Grommet	1
MI-15300-04	Wheel guard cover	2	MI-15300-35	Line cord	1
MI-15300-05	Flange	2	MI-15300-36	Strain relief	1
MI-15300-06	5/8"-11 Hex nut (LH thread)	1	MI-15300-37	#10-24 x 1/4" Flange screw	9
MI-15300-07	Inner wheel flange	2	MI-15300-38	Base	1
MI-15300-08	Grinding wheel (36 coarse grit)	1	MI-15300-39	Switch with key	1
MI-15300-09	Grinding wheel (60 med. grit)	1	MI-15300-40	Base cover	1
MI-15300-10	5/16-18 x 1" Knob	2	MI-15300-41	1/4" Lock washer	8
MI-15300-11	3/8-16 x 3/4" Hex head bolt	2	MI-15300-42	1/4"-20 Hex nut	2
MI-15300-12	3/8" Flat washer	4	MI-15300-43	Capacitor clamp	1
MI-15300-13	5/16" Flat washer	2	MI-15300-44	Capacitor (4 POLE)	1
MI-15300-14	1/4-20 x 3/8" Knob	2	MI-15350-44	Capacitor (2 POLE)	1
MI-15300-15	Dust collector hose	1	MI-15300-45	# 10 Serrated washer	5
MI-15300-16	Tool rest (left)	1	MI-15300-46	Base bumper	4
MI-15300-17	Bracket (left)	1	MI-15300-47	Wavy washer	2
MI-15300-18	3/8" Lock washer	2	MI-15300-48	Bracket (right)	1
MI-15300-19	3/8-16 x 1/2" Knob	2	MI-15300-49	Centrifugal switch (4 POLE)	1
MI-15300-20	#10-24 x 3/8" Pan head screw	4	MI-15350-49	Centrifugal switch (2 POLE)	1
MI-15300-21	Upper eyeshield bracket (left)	1	MI-15300-50	# 10-24 x 3/8" Flange screw	1
MI-15300-22	Upper eyeshield bracket (right)	1	MI-15300-51	5/8"-11 Hex nut (RH thread)	1
MI-15300-23	Eyeshield	2	MI-15300-52	Stationary switch	1
MI-15300-24	Lower eyeshield bracket	2	Recommended Accessories		
MI-15300-25	Tool rest (right)	1	▲	Cast iron tool stand	1
MI-15300-26	5-0.8 mm Hex nut	4	▲	Lighted eyeshield	1
MI-15300-27	1/4-20 x 1/2" Hex head bolt	6	▲	Grinding wheel dresser	1
MI-15300-28	5-0.8 x 228mm Flange screw	4	▲	Large grinding wheel dresser	1
MI-15300-29	Endshield	2	▲	Multi-purpose stand	1
MI-15300-30	Bearing 6204ZZ	2	▲	Spacer kit	1
MI-15300-31	Motor fan	1			
MI-15300-32	Armature	1			

(▲) Not shown. (*) Standard hardware item, available locally. (+) Not available as repair part

PARTS LIST FOR MI-15450

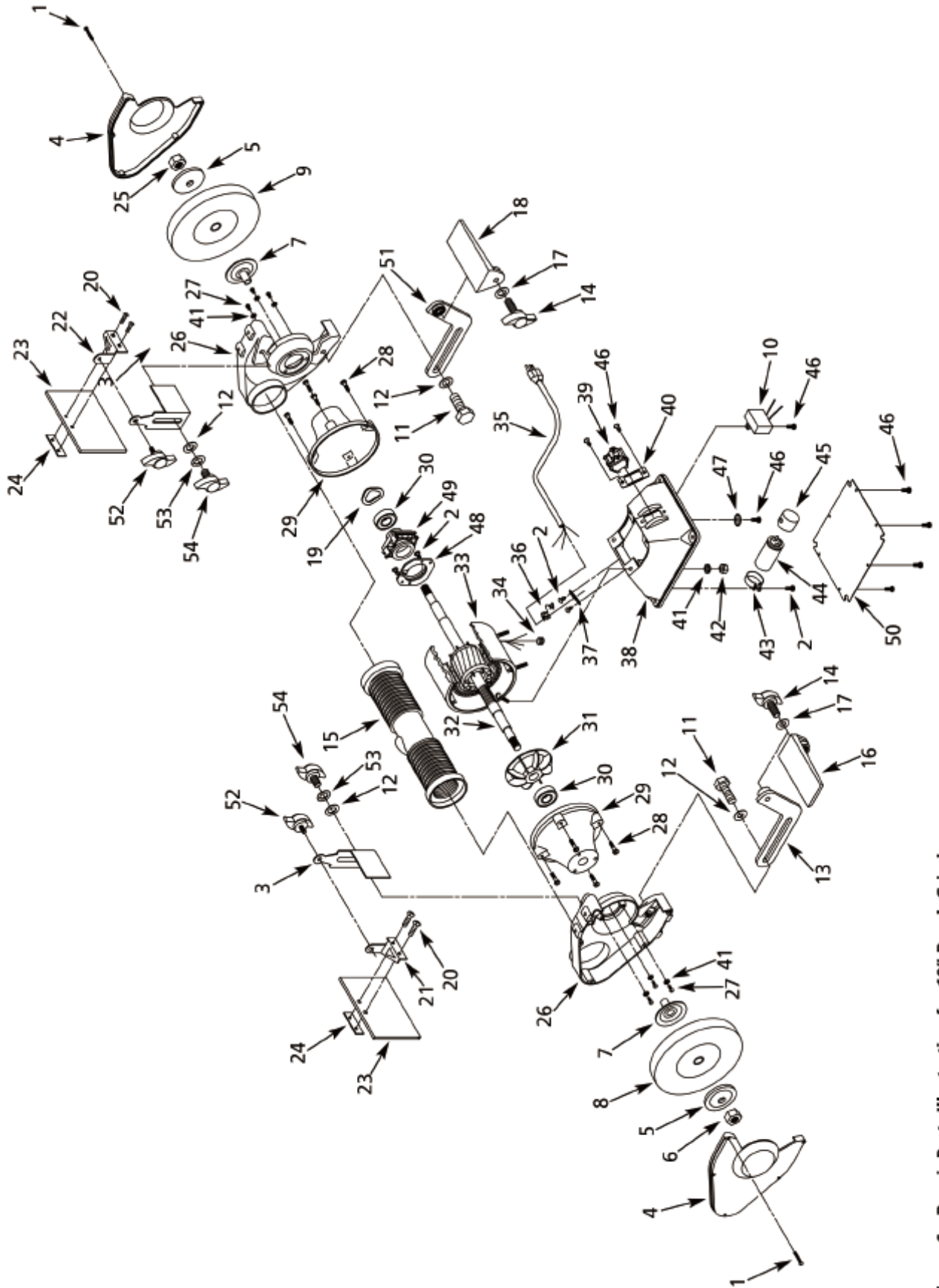


Figure 6 - Repair Parts Illustration for 10" Bench Grinder

PARTS LIST FOR MI-15450

ITEM NO.	DESCRIPTION	Q'ty	ITEM NO.	DESCRIPTION	Q'ty
MI-15450-01	1/4-20 x 3/4" Pan head screw	10	MI-15450-33	Stator with housing	1
MI-15450-02	#10-24 x 3/8" Flange screw	3	MI-15450-34	Grommet	2
MI-15450-03	Spark guard (Set of 2)	1	MI-15450-35	Line cord	1
MI-15450-04	Wheel guard cover	2	MI-15450-36	Strain relief	1
MI-15450-05	Flange	2	MI-15450-37	Strain relief plate	1
MI-15450-06	1"-8 Hex nut (LH thread)	1	MI-15450-38	Base	1
MI-15450-07	Inner wheel flange	2	MI-15450-39	Switch with key	1
MI-15450-08	Grinding wheel (36 coarse grit)	1	MI-15450-40	Switch plate	1
MI-15450-09	Grinding wheel (60 med. grit)	1	MI-15450-41	5/16" Lock washer	10
MI-15450-10	Capacitor	1	MI-15450-42	5/16"-18 Hex nut	4
MI-15450-11	3/8-16 x 3/4" Hex head bolt	2	MI-15450-43	Capacitor clamp	1
MI-15450-12	3/8" Flat washer	4	MI-15450-44	Capacitor	1
MI-15450-13	Bracket (left)	1	MI-15450-45	Capacitor cap	2
MI-15450-14	5/16-18 x 1" Knob	2	MI-15450-46	#10-24 x 1/4" Flange screw	10
MI-15450-15	Dust collector hose	1	MI-15450-47	#10 Serrated washer	1
MI-15450-16	Tool rest (left)	1	MI-15450-48	Stationary switch	1
MI-15450-17	5/16" Flat washer	2	MI-15450-49	Rotating switch	1
MI-15450-18	Tool rest (right)	1	MI-15450-50	Base cover	1
MI-15450-19	Wavy washer	1	MI-15450-51	Bracket (right)	1
MI-15450-20	#10-24 x 3/8" Pan head screw	4	MI-15450-52	1/4-20 x 3/8" Knob	2
MI-15450-21	Upper eyeshield bracket (left)	1	MI-15450-53	3/8" Lock washer	2
MI-15450-22	Upper eyeshield bracket (right)	1	MI-15450-54	3/8-16 x 1/2" Knob	2
MI-15450-23	Eyeshield	2	Recommended Accessories		
MI-15450-24	Lower eyeshield bracket	2	▲	Cast iron tool stand	1
MI-15450-25	1"-8 Hex nut (RH thread)	1	▲	Lighted eyeshield	1
MI-15450-26	Wheel guard	2	▲	Grinding wheel dresser	1
MI-15450-27	5/16-18 x 5/8" Hex head bolt	6	▲	Large grinding wheel dresser	1
MI-15450-28	1/4-20 x 2" Flange screw	8	▲	Multi-purpose stand	1
MI-15450-29	Endshield	2	▲	Spacer kit	1
MI-15450-30	Bearing 6206ZZ	2			
MI-15450-31	Motor fan	1			
MI-15450-32	Armature	1			

(▲) Not shown. (*) Standard hardware item, available locally. (+) Not available as repair part

MI-99155 DELUXE DUST KIT INCLUDED WITH 10 AND 12" GRINDERS ONLY

MI-99155 DUST KIT



ILLUSTRATION FOR CONECTING DUST KIT

