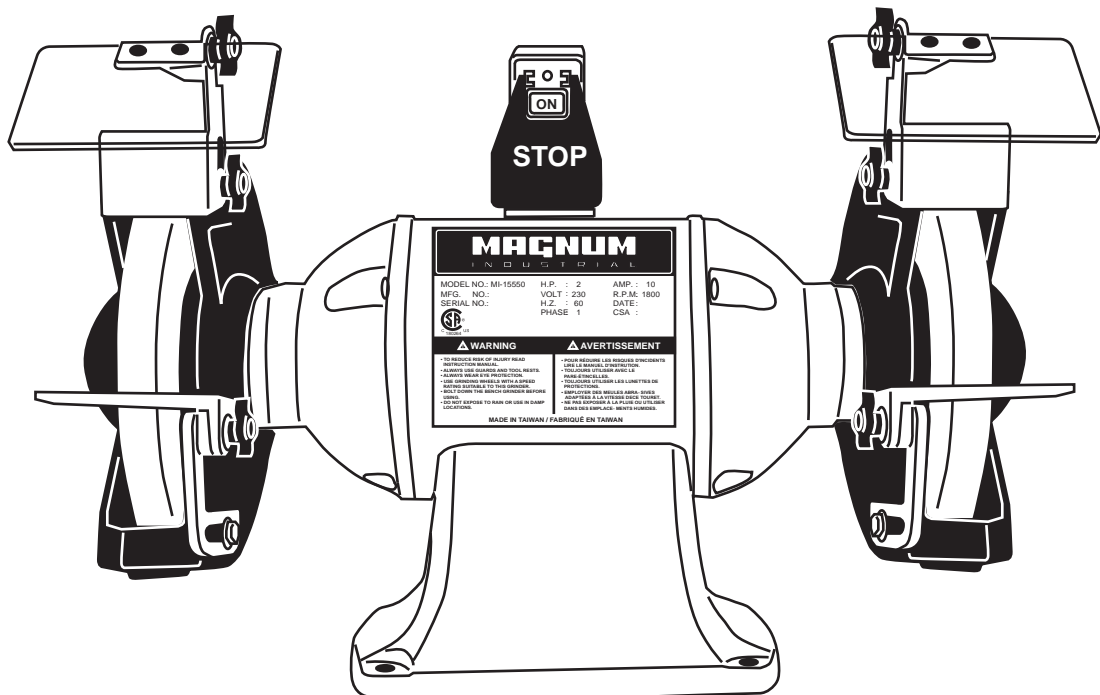


MAGNUM

INDUSTRIAL

MODEL NO.: MI-15550



OPERATING MANUAL

12" Bench Grinder

Operating Instructions & Parts Manual

Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and or property damage! Retain instructions for future reference.

Description

12" Bench Grinder is 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 press against both wheels without touching the motor frame. Removable wheel guards allow for easy changing of wheels. Two-way tool rests are adjustable for wheel wear and angle grinding. comes complete with spark guards, safety eye shields, 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. To be certain the grinding wheels have not been damaged in shipment, strike the edges slightly with a metal object. A ringing sound indicates a good wheel, but a dull noise may signal a fracture.

WARNING If you suspect a wheel of being fractured, replace it immediately. Fractured wheels may shatter, causing serious injury.

Specifications

Model	HP	RPM	AMPS	Volts	Hz
MI-15550	2	1800	10	230	60

ALUMINUM OXIDE VITRIFIED WHEELS

GRIT

1 ea. 36 Coarse and 1 ea. 60 Medium

SZIS

12" Dia., 2" Face, 1-1/4" Bore

General Safety Information

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

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
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.)

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.

General Safety Information (Continued)

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. Replace cracked wheel immediately. Use only flanges supplied with the grinder.
12. Adjust distance between wheel and tool rest to maintain 1/16" or less gap.
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 grinder 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 5/16-18 x 1" Carriage bolt, 4 each
- B Tool rest bracket, 4 each
- C *3/8" Flat washer, 8 each
- D *3/8"-16 Hex nut, 2 each
- E Tool rest, 2 each
- F 5/16" Flat washer, 4 each
- G 5/16"-18 Hex nut, 4 each
- H *3/8-16 x 14" Hex bolt, 6 each
- I Knob, 2 each
- J Spark guard, 2 each
- K Eyeshield, 2 each
- L *Lower eyeshield bracket, 2 each
- M Upper eyeshield bracket, 2 each (left and right)
- N #10-24 x 3/8" Pan head screw, 4 each
- O 6-1.0 x 12mm Flange screw, 2 each
- P 6mm Flat washer, 2 each
- Q *3/8"-16 Wing nut, 2 each
- R *Wheel guard
- S 3/8-16 x 5/8" Hex bolt, 4 each
- T *Wheel guard cover
- U Dust collector hose (not shown)

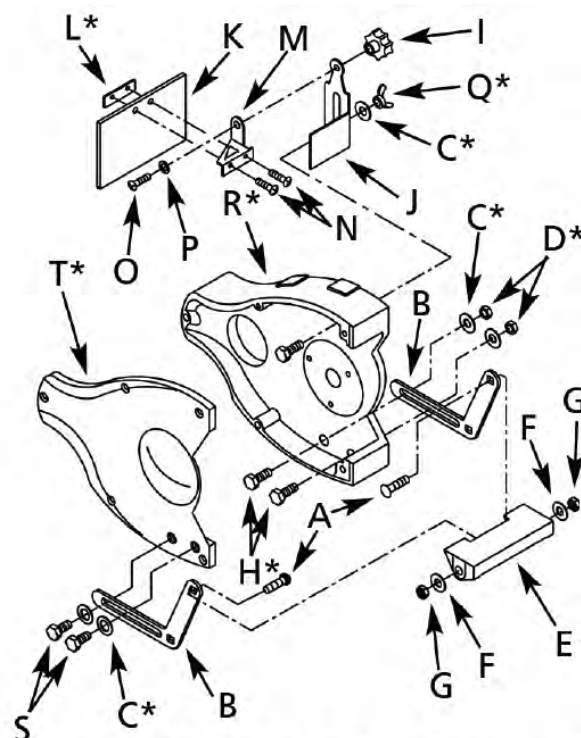


Figure 1 – Left Tool Rest and Eyeshield Assembly

NOTE: Parts marked with an asterisk (*) are mounted to the grinder at the factory.

TOOL REST ASSEMBLY

Slide 5/16-18" carriage bolts (A) into square holes in tool rest brackets (B). Slide carriage bolts with brackets into holes on inside of tool rest (E) as shown in Figure 1. Slide 5/16" flat washers (F) and 5/16"-18 hex nuts (G) onto carriage bolts. Tighten nuts finger tight. Remove 3/8" hex nuts (D) and flat washers (C) from 3/8-16 x 14" hex bolts (H) mounted to bottom front of left wheel guard (R). Slide slot in tool rest bracket (right side) over 3/8" bolts. Replace flat washers and hex nuts. Position left side tool rest bracket over threaded holes in wheel guard cover and secure with 3/8" flat washers (C) and 3/8-16 x 5/8" hex bolts (S). Position tool rest so that distance between tool rest and grinding wheel is less than 1/16". Secure all nuts and bolts. Mount right tool rest in a similar manner.

EYESHIELD ASSEMBLY

Remove 3/8" wing nut (Q) and 3/8" flat washer (C) from 3/8-16 x 14" hex bolt (H) mounted to top front of left wheel guard (R). Slide slot in spark guard (J) over hex bolt and replace washer and wing nut. Remove pan head screws (N) from eyeshield assembly. Mount left upper eyeshield bracket (M) to eyeshield using pan head screws and lower eyeshield bracket.

NOTE: Left upper eyeshield bracket is stamped "L" for identification. Slide 6-1.0 x 12mm flange screw (O) and 6mm flat washer (P) through left upper eyeshield bracket (M) and through hole at top of left spark guard (J) and secure with knob (I).

Assembly (Continued)

Locate eyeshield in desired position for protecting operator and secure all nuts and bolts. 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 22" shop vacuum hose to collector hose. Be sure hose is mounted securely. Be sure to empty

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

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. 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. 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.

Installation

POWER SOURCE

12" grinder is prewired for 230 volts, 60 Hz, single-phase power. A qualified electrician should wire a 230 volt, 20 AMP, 3-prong plug to grinder line cord.

WARNING All electrical connections must be performed 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 +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, replace it immediately.

EXTENSION CORD LENGTH

Wire Size	A.W.G.
Up to 25 ft.	14

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,

Operation

WARNING Always wear safety glasses complying with United States ANSI Z87.1 (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.

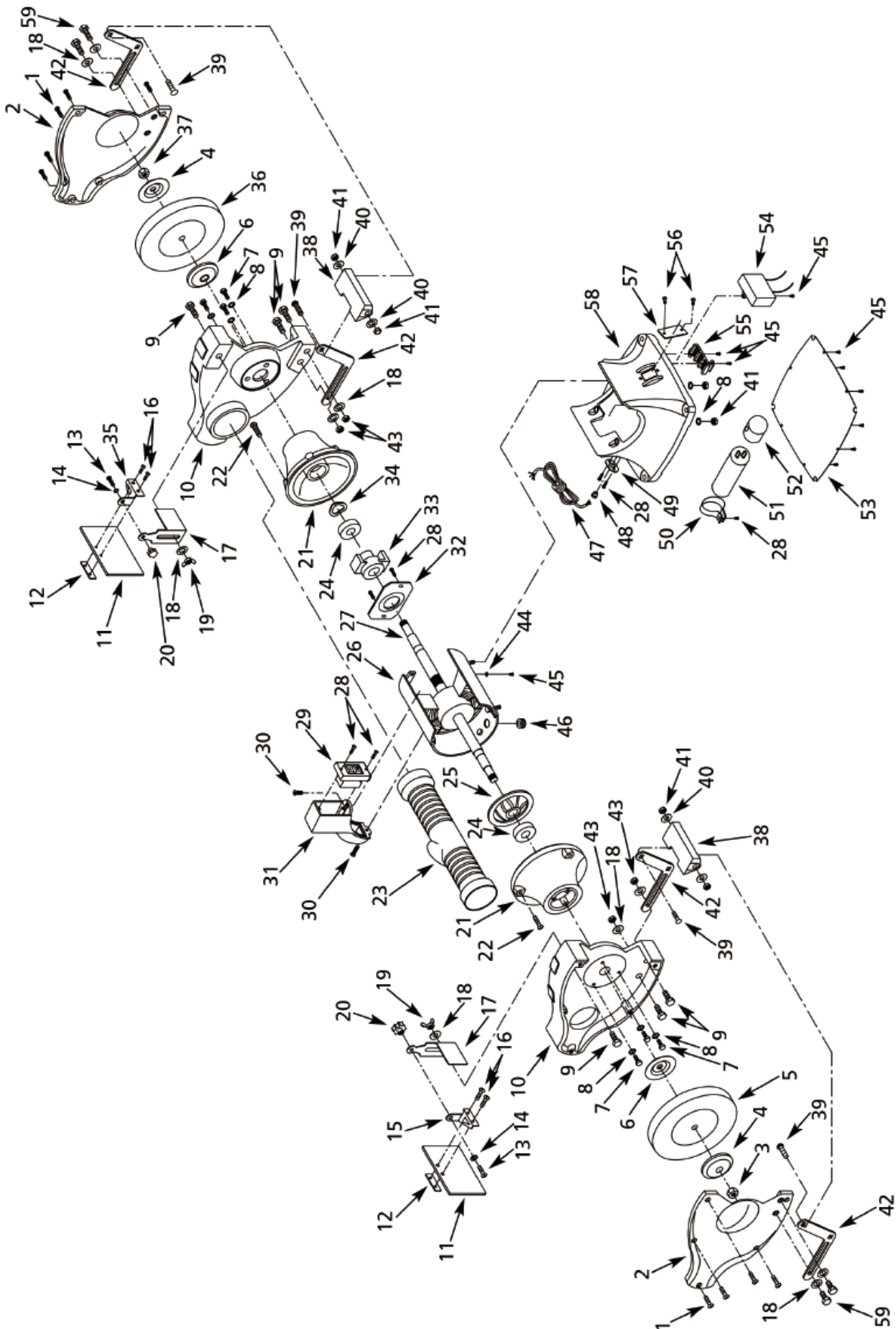
Maintenance

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" maxi gap cannot be maintained, the wheels should be replaced.
3. Replacement wheels should have a minimum rated speed of at least 1800 RPM.
4. Maximum wheel diameter is 12"
5. To loosen nuts holding the wheels, disconnect power and push a wood wedge between the tool rest and the wheel to keep the shaft from turning. The threads on the right side of the grinder (facing unit) are right hand; threads on the left side are left hand. Tighten nuts securely before operating the grinder.
6. For grinding efficiency, wheels should be dressed periodically, especially if they become clogged from grinding soft metals.

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, replace 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 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. 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. Contact authorized MAGNUM Service Center

PARTS LIST FOR MI-15550



PARTS LIST FOR MI-15550

ITEM NO.	DESCRIPTION	Q'ty	ITEM NO.	DESCRIPTION	Q'ty
MI-15550-01	1/4-20 x 3/4" Pan head screw	10	MI-15550-36	Grinding wheel (60 med. grit)	1
MI-15550-02	Wheel guard cover	2	MI-15550-37	1"-8 Hex nut (RH thread)	1
MI-15550-03	1"-8 Hex nut (LH thread)	1	MI-15550-38	Tool rest	2
MI-15550-04	Flange	2	MI-15550-39	5/16-18 x 14" Carriage bolt	4
MI-15550-05	Grinding wheel (36 coarse grit)	1	MI-15550-40	5/16" Flat washer	4
MI-15550-06	Inner wheel flange	2	MI-15550-41	5/16"-18 Hex nut	8
MI-15550-07	5/16-18 x 5/8" Hex head bolt	6	MI-15550-42	Tool rest upright	4
MI-15550-08	5/16" Lock washer	4	MI-15550-43	3/8"-16 Hex nut	4
MI-15550-09	3/8-16 x 14" hex head bolt	6	MI-15550-44	#10 Serrated washer	1
MI-15550-10	Wheel guard	2	MI-15550-45	#10-24 x 1/4" Flange Screw	12
MI-15550-11	Eye shield	2	MI-15550-46	Grommet	1
MI-15550-12	Lower eye shield bracket	2	MI-15550-47	Line cord	1
MI-15550-13	6-1.0 x 12mm Flange screw	2	MI-15550-48	Strain relief	1
MI-15550-14	6mm Flat washer	2	MI-15550-49	Strain relief plate	1
MI-15550-15	Upper eye shield bracket (left)	1	MI-15550-50	Capacitor clamp	1
MI-15550-16	#10-24 x 3/8" Pan head screw	4	MI-15550-51	Capacitor	4
MI-15550-17	Spark guard (set of 2)	1	MI-15550-52	Capacitor cap	1
MI-15550-18	3/8" Flat washer	8	MI-15550-53	Base cover	1
MI-15550-19	3/8"-16 Wing nut	2	MI-15550-54	Capacitor	1
MI-15550-20	Knob	2	MI-15550-55	Terminal block	1
MI-15550-21	End shield	2	MI-15550-56	Rivet	2
MI-15550-22	1/4-20 x 2" Flange screw	8	MI-15550-57	Cover	1
MI-15550-23	Dust collector hose	1	MI-15550-58	Base	1
MI-15550-24	Bearing 6007ZZ	2	MI-15550-59	5/8-16 x 5/8" Hex head bolt	4
MI-15550-25	Motor fan	1		Recommended Accessories	
MI-15550-26	Stator with housing	1	▲	Lighted eyeshield	1
MI-15550-27	Armature	1	▲	Grinding wheel dresser	1
MI-15550-28	#10-24 x 3/8" Flange screw	7			
MI-15550-29	Magnetic contactor	1			
MI-15550-30	1/4-20x5/8" Flat Head Screw	2			
MI-15550-31	Magnetic switch holder	1			
MI-15550-32	Stationary switch	1			
MI-15550-33	Rotating switch	1			
MI-15550-34	Wavy washer	1			
MI-15550-35	Upper eye shield bracket (right)	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

