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.

Dayton® Bench Grinders

ENGLISH

ESPAÑOL

Description

Dayton 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 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. Grinders come complete with spark guards and safety eyeshields.

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
2Z425T	1/4	3450	3.0/1.5	120/240	60
4Z123G	1/3	3450	3.5/1.75	120/240	60

ALUMINUM OXIDE VITRIFIED WHEELS

GRIT

1 ea. 36 Coarse and 1 ea. 60 Medium

SIZES

6" Dia., 3/4" Face, 1/2" 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 work place. 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.)

KNOW HOW TO USE TOOL

1. Use the 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 grinder 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.

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General Safety Information (Continued)

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 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 5/16-18 x 1½" Carriage bolt, 4 each

B Spacer, 2 each

C Tool rest bracket, 2 each

D *5/16" Flat washer, 4 each

E *5/16"-18 Hex nut, 2 each

F Tool rest, 2 each

G 5/16" Flat washer, 4 each

H 5/16"-18 Hex nut, 4 each

I *5/16-18 x 1¼" Carriage bolt, 4 each

J Eyeshield bracket, 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 *5/16-18 Wing nut, 2 each

P Spark guard, 2 each (not shown)

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

TOOL REST ASSEMBLY

Refer to Figure 1.

Slide 5/16-18 x 1½" carriage bolt (A) into square hole in tool rest bracket (C). Slide spacer (B) onto carriage bolt. Slide carriage bolt with spacer and bracket into hole on inside of tool rest (F) as shown in Figure 1. Slide 5/16" flat washer (G) and 5/16"-18 hex nut (H) onto carriage bolt. Tighten nut finger tight.

Remove 5/16" hex nut (E) and flat washer (D) from 5/16-18 x 1¼" carriage bolt (I) mounted to bottom front of left wheel guard.

Slide slot in tool rest bracket over 5/16" bolt. Replace flat washer and hex nut. 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.

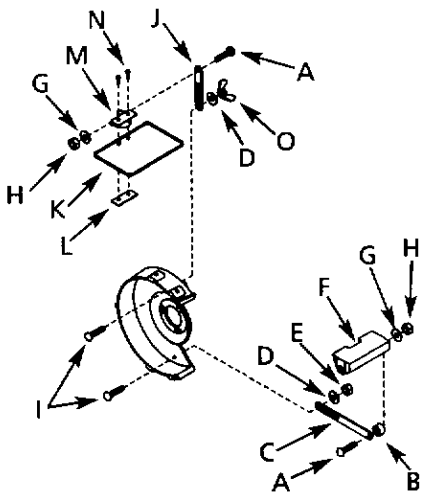

Figure 1 – Left Tool Rest and Eyeshield Assembly

EYESHIELD ASSEMBLY

Remove 5/16" wing nut (O) and 5/16" flat washer (D) from 5/16-18 x 1¼" carriage bolt (I) mounted to top front of left wheel guard.

Slide slot in eyeshield bracket (J) over carriage 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 5/16-18 x 1½" carriage bolt (A) into square in upper bracket from right side. Slide upper eyeshield bracket over carriage bolt and secure with 5/16" flat washer (G) and hex nut (H). Locate eyeshield in desired position for protecting operator and secure all nuts and bolts.

Mount right eyeshield assembly in a similar manner.

Models 2Z425T and 4Z123G

Assembly (Continued)

SPARK GUARDS

Spark guards (O) are mounted to the grinder using pan head screws already mounted to wheel guard cover.

Remove pan head screws at top of wheel guard covers toward front of grinder. Slide spark guards (O) onto pan head screws. Position spark guard so there is a gap of no more than 1/16" between grinding wheel and the spark guard. Tighten pan head screws securely.

OPTIONAL LIGHTED EYESHIELD (MODEL 6X854)

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.

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 1¼" 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 bolt extension. Tighten only until space between grinder base and pedestal is 1/8". 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 3/4" wood screws with flat washers beneath heads. Tighten screws until space between grinder base and bench top is 1/8".

GROUNDING INSTRUCTIONS

⚠WARNING ***Improper connection of equipment grounding conductor can result in 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).

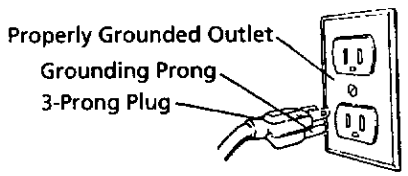

Figure 2 –3-Prong Receptacle

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.

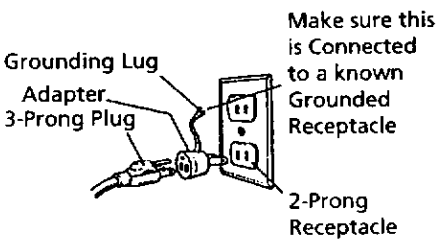

Figure 3 – 2-Prong Receptacle

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

(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 properly grounded water pipe, a properly grounded outlet box or a properly grounded wire system.

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Installation (Continued)

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 ±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.	18

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 120/240 volts. Motor is prewired at the factory for 120 volts.

To use the grinder with a 240V power supply, have a qualified electrician attach a 240 volt, 15A three-prong plug onto grinder line cord.

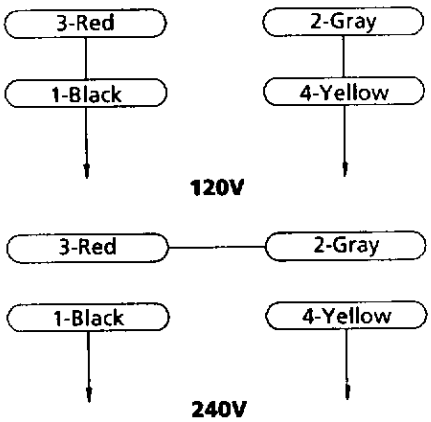

Figure 4 – Wiring Diagram

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" maximum gap cannot be maintained, the wheels should be replaced.
3. Replacement wheels should have a minimum rated speed of at least 3600 RPM.
4. Maximum wheel diameter is 6".
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. Dayton Grinding Wheel Dressers, Model 2X951 or 6X851, are recommended (See Page 7).

Models 2Z425T and 4Z123G

Troubleshooting Chart

Symptom	Possible Cause(s)	Corrective Action
Grinder won't start	1. Blown line fuse or tripped circuit breaker	1. If fuse is blown, replace with fuse of proper size. If breaker tripped, reset it
	2. Low line voltage	2. Check power supply for voltage and correct as needed
	3. Material wedged between wheel and guard	3. Turn grinder off and remove material
	4. Defective switch	4. Replace switch
	5. Defective, blown capacitor	5. Replace capacitor
Excessive vibration	1. Improper mounting of grinder or accessories	1. Remount
	2. Grinding wheel out of balance	2. Dress wheels or replace wheels
	3. Improper wheel mounting	3. Remount wheels, but rotate one wheel 90° with respect to its previous position. Other wheel should remain in its original position
Motor overheating	1. Excess pressure required to grind material	1. Dress wheel or replace wheel with one of proper grit
	2. Grinding on side of wheel	2. Grind only on face of wheel
	3. Motor not turning freely (without power)	3. Clean around wheels and shaft and/or replace bearings
	4. Motor wired for different line voltage	4. Rewire motors as per line voltage (See Electrical Connections, page 4)
Fuses are being blown or circuit breakers are being tripped	1. Overloading due to binding	1. Clean around wheels and shaft and/or replace bearings
	2. Defective plug	2. Replace plug
	3. Defective cord	3. Replace cord
	4. Defective switch	4. Replace switch
	5. Motor wired for different line voltage	5. Rewire motors as per line voltage (See Electrical Connections, page 4)
	6. Faulty internal wiring	6. Contact authorized Dayton Service Center

For Repair Parts, call 1-800-323-0620

24 hours a day - 365 days a year

Please provide following information:
-Model number
-Serial number (if any)
-Part description and number as shown in parts list

Address parts correspondence to:
Grainger Parts
P.O. Box 3074
1657 Shermer Road
Northbrook, IL 60065-3074 U.S.A.

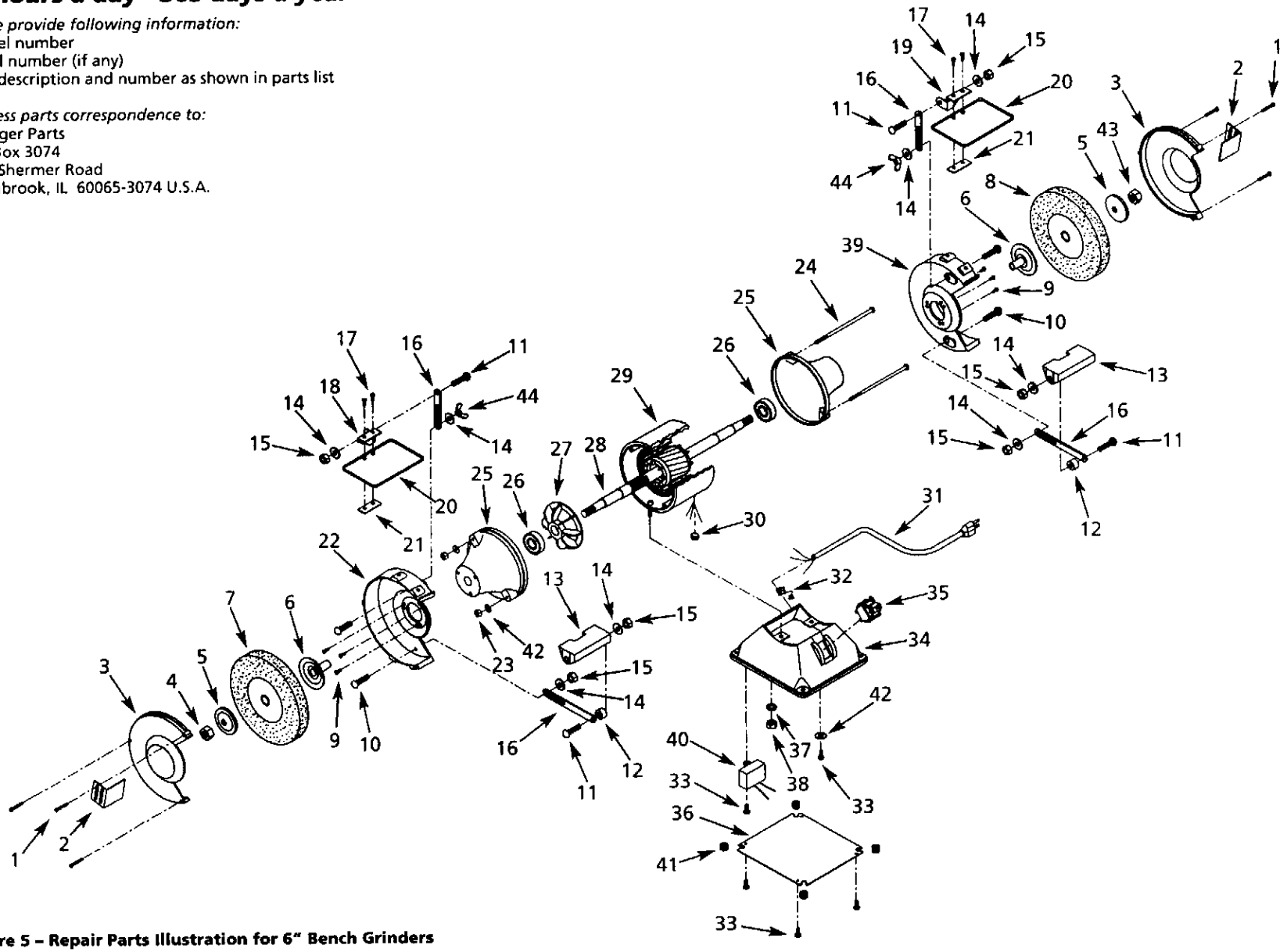

Figure 5 – Repair Parts Illustration for 6" Bench Grinders

Repair Parts List for 6" Bench Grinders

Ref. No.	Description	Part No.	Qty.
1	1/4-20 x 7/8" Pan head screw	*	6
2	Spark guard	04023.01	2
3	Wheel guard cover	16900.00	2
4	1/2"-12 Hex nut (LH thread)	00064.00	1
5	Flange	18904.00	2
6	Inner wheel flange	17315.00	2
7	Grinding wheel (36 coarse grit)	6A084	1
8	Grinding wheel (60 med. grit)	6A085	1
9	1/4-20 x 3/8" Flange screw	16670.00	6
10	5/16-18 x 1¼" Carriage bolt	*	4
11	5/16-18 x 1½" Carriage bolt	*	4
12	Spacer	04028.00	2
13	Tool rest	04030.00	2
14	5/16" Flat washer	*	8
15	5/16"-18 Hex nut	*	6
16	Upright	04029.00	4
17	#10-24 x 3/8" Pan head screw	*	4
18	Upper eyeshield bracket (left)	00284.01	1
19	Upper eyeshield bracket (right)	00282.01	1
20	Eyeshield	00281.00	2
21	Lower eyeshield bracket	00280.00	2
22	Wheel guard (left)	16901.00	1
23	5mm-0.8 Hex nut	*	2
24	5-0.8 x 200mm Pan head screw	04040.00	2
25	Endshield	16617.00	2
26	Bearing 6202Z	1L015	2

Ref. No.	Description	Part No.	Qty.
27	Motor fan	01608.00	1
28	Armature (2Z425T)	16902.01	1
28	Armature (4Z123G)	16903.01	1
29	Stator with housing (2Z425T)	16904.00	1
29	Stator with housing (4Z123G)	16905.00	1
30	Grommet	01066.00	1
31	Line cord	00067.00	1
32	Strain relief	04055.00	1
33	#10-24 x 1/4" Flange screw	3210.00	6
34	Base	16906.00	1
35	Rocker switch with key	08066.00	1
36	Cover	16909.00	1
37	1/4" Lock washer	*	2
38	1/4"-20 Hex nut	*	2
39	Wheel guard (right)	16907.00	1
40	Capacitor	16908.00	1
41	Bumper	04051.00	4
42	#10 Serrated washer	*	3
43	1/2"-12 Hex nut (RH thread)	00548.00	1
44	5/16"-18 Wing nut	*	2
	Recommended Accessories		
Δ	Cast iron tool stand	4Z154	1
Δ	Lighted eyeshield	6X854	1
Δ	Grinding wheel dresser	2X951	1
Δ	Large grinding wheel dresser	6X851	1
Δ	Multi-purpose stand	5A335	1

(Δ) Not shown.
(*) Standard hardware item, available locally.

Dayton® Bench Grinders

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LIMITED WARRANTY

DAYTON ONE-YEAR LIMITED WARRANTY. *Dayton® Bench Grinders, Models covered in this manual, are warranted by Dayton Electric Mfg. Co. (Dayton) to the original user against defects in workmanship or materials under normal use for one year after date of purchase. Any part which is determined to be defective in material or workmanship and returned to an authorized service location, as Dayton designates, shipping costs prepaid, will be, as the exclusive remedy, repaired or replaced at Dayton's option. For limited warranty claim procedures, see PROMPT DISPOSITION below. This limited warranty gives purchasers specific legal rights which vary from jurisdiction to jurisdiction.*

LIMITATION OF LIABILITY. *To the extent allowable under applicable law, Dayton's liability for consequential and incidental damages is expressly disclaimed. Dayton's liability in all events is limited to and shall not exceed the purchase price paid.*

WARRANTY DISCLAIMER. *Dayton has made a diligent effort to provide product information and illustrate the products in this literature accurately; however, such information and illustrations are for the sole purpose of identification, and do not express or imply a warranty that the products are MERCHANTABLE, or FIT FOR A PARTICULAR PURPOSE, or that the products will necessarily conform to the illustrations or descriptions. Except as provided below, no warranty or affirmation of fact, expressed or implied, other than as stated in the "LIMITED WARRANTY" above is made or authorized by Dayton.*

PRODUCT SUITABILITY. *Many jurisdictions have codes and regulations governing sales, construction, installation, and/or use of products for certain purposes, which may vary from those in neighboring areas. While Dayton attempts to assure that its products comply with such codes, it cannot guarantee compliance, and cannot be responsible for how the product is installed or used. Before purchase and use of a product, review the product applications, and all applicable national and local codes and regulations, and be sure that the product, installation, and use will comply with them.*

Certain aspects of disclaimers are not applicable to consumer products; e.g., (a) some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you; (b) also, some jurisdictions do not allow a limitation on how long an implied warranty lasts, consequentially the above limitation may not apply to you; and (c) by law, during the period of this Limited Warranty, any implied warranties of implied merchantability or fitness for a particular purpose applicable to consumer products purchased by consumers, may not be excluded or otherwise disclaimed.

PROMPT DISPOSITION. *Dayton will make a good faith effort for prompt correction or other adjustment with respect to any product which proves to be defective within limited warranty. For any product believed to be defective within limited warranty, first write or call dealer from whom the product was purchased. Dealer will give additional directions. If unable to resolve satisfactorily, write to Dayton at address below, giving dealer's name, address, date, and number of dealer's invoice, and describing the nature of the defect. Title and risk of loss pass to buyer on delivery to common carrier. If product was damaged in transit to you, file claim with carrier.*

Manufactured for Dayton Electric Mfg. Co., 5959 W. Howard St., Niles, Illinois 60714 U.S.A.