

®
Dayton



In-Line Cabinet Ventilators

**Models 3DPE7B, 3DPE8B, 3DPE9A, 3DPF1
thru 3DPF6, 5AE82, 5AE83, 6WZN3 thru
6WZN5, 6WZN6A, 6WZN7 thru 6WZN9,
6WZP0, 6WZP1, 36WG66 and 36WG67**

®
Dayton

**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.**

**PLEASE REFER TO BACK COVER
FOR INFORMATION REGARDING
DAYTON'S WARRANTY AND OTHER
IMPORTANT INFORMATION.**

Model #: _____

Serial #: _____

Purch. Date: _____

*Form 5S6858 / Printed in USA
04632 Version 1 04/2017*

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BEFORE YOU BEGIN

⚠ WARNING *Installation, troubleshooting and parts replacement are to be performed only by qualified personnel in accordance with all applicable codes and standards, including fire-rated construction.*



Electrical Requirements:

⚠ WARNING *Install all wiring, protection and grounding in accordance with the U.S. National Electrical Code (NEC) and all local requirements. Follow all local electrical and safety codes, as well as the U.S. National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).*



Tools Needed:

- Lock-Out Tag-Out
- Phillips Screwdriver
- Drill
- Sheet Metal Screws

Recommended Accessories:

- Speed Control (48C172, 48C173, 43Y140, 35YV92-35YV94)
- Fluorescent (3AZG1) Lighted Grille Kit
- Non-Lighted (3DPF7-3DPF8) / Lighted (3DPF9) Ceiling Radiation Damper
- 6" Round Duct Connector (6WZP2)
- 8" Round Duct Connector (6WZP3)

UNPACKING



Contents:

- Dayton® In-Line Cabinet Ventilator (1)
- Mounting Brackets with Hardware (2)
- Operating Instructions and Parts Manual (1)



Inspect:

- After unpacking unit, inspect carefully for any damage that may have occurred during transit. Check for loose, missing, or damaged parts. Shipping damage claim must be filed with carrier.
- Check all bolts, screws, set-screws, etc. for looseness that may have occurred during transit. Retighten as required. Rotate wheel by hand to be sure it turns freely.



- See General Safety Instructions on page 2, and Cautions and Warnings as shown.

GENERAL SAFETY INSTRUCTIONS

⚠ DANGER *Do not depend on any switch as the sole means of disconnecting power when installing or servicing the fan. Always disconnect, lock and tag power source before installing or servicing. Failure to disconnect power source can result in fire, shock or serious injury. Motor will restart without warning after thermal protector trips. Do not touch operating motor, it may be hot enough to cause injury.*

⚠ DANGER *Do not place any body parts or objects in fan, motor openings or drives while motor is connected to power source.*

⚠ CAUTION *For general ventilating use only. Do not use to exhaust hazardous or explosive materials and vapors.*

⚠ WARNING *To reduce the risk of fire, electric shock, or injury to persons, observe the following:*

1. Read and follow all instructions and cautionary markings. Make sure electrical power source conforms to requirements of equipment and local codes.
2. Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.
3. Installation work and electrical wiring must be done by a qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.
4. Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment to prevent back drafting. Follow the heating equipment manufacturer's guideline and safety standards such as those published by the National Fire Protection Association (NFPA), and the American Society for Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) and the local code authorities.
5. These fans are not recommended for cooking exhaust applications. They are designed primarily for low temperature, clean air applications only. Figure 3, page 6 shows the minimum distance these fans should be placed in relation to cooking equipment.
6. When cutting or drilling into wall or ceiling, do not damage electrical wiring or other hidden utilities.
7. Ducted fans must always be vented to the outdoors.
8. Suitable for use with solid-state speed controls.
9. Never place a switch where it can be reached from a tub or shower.
10. Before servicing or cleaning unit, switch power off at service panel and lock service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.

SPECIFICATIONS

Max. Inlet Temp.	104°F
Mounting Location	Horizontal or Vertical Discharge
Housing Material	Galvanized Steel
Agency Compliance	UL/cUL 507, AMCA Air



Dayton Electric Mfg. Co. certifies that the ventilators shown herein are licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.



Recommended Accessories

Speed Control	48C172	48C173	35YV94	None
Ventilator	6WZN3, 6WWN4, 6WZN5, 3DPE7A, 3DPE8A, 3DPE9, 3DPF1, 3DPF2, 6WZN6, 6WZN7, 3DPF3, 6WZN8, 6WZN9, 3DPF4, 6WZP0	3DPF5, 3DPF6, 6WZP1, 5AE82	36WG66, 36WG67	5AE83
Round Duct Connector	6WZP2	6WZP3		
Ventilator	3DPE7B, 3DPE8B	6WZN6A, 3DPE9A, 3DPF1, 3DPF2, 6WZN7, 3DPF3, 36WG66		

4 PERFORMANCE



Model 115V	Full Load Watts	Full Load Amps	Model 115V – ECM	Watts	Full Load Amps	Sones @ 5 Ft. @											
						RPM	.100"SP	.250"SP	.000"	.100"	.125"	.250"	.375"	.500"	.625"	.750"	1.00"
6WZN3	80	1.14	—	—	—	950	1.5	2.0	103	100	100	98	97	96	94	86	—
3DPE7B	20.3	0.62	—	—	—	950	0.8	0.9	124	112	110	102	77	—	—	—	—
6WZN4	129	1.7	—	—	—	1050	2.0	2.0	151	150	149	148	144	146	142	135	—
6WZN5	173	2.2	—	—	—	1100	3.0	3.0	186	184	189	182	181	179	175	170	—
3DPE8B	55.1	1.1	—	—	—	1400	1.5	1.9	215	202	198	180	159	121	—	—	—
6WZN6A	57.9	0.43	—	—	—	900	0.4	0.9	254	231	226	203	178	145	109	70	—
3DPE9A	66.5	0.79	—	—	—	1000	1.0	1.7	266	246	241	221	205	187	165	132	—
3DPF1	102.2	0.71	—	—	—	1050	1.2	2.0	318	299	292	265	248	229	201	144	—
3DPF2	160.8	1.33	—	—	—	1350	2.0	2.4	412	400	397	382	363	339	324	309	—
6WZN7	132.2	1.87	—	—	—	1000	1.5	2.0	447	441	403	364	317	217	—	—	—
—	—	—	—	—	—	550	<0.3	—	280	208	180	—	—	—	—	—	—
—	—	—	36WG66	218.2	3.11	800	0.3	<0.3	407	366	355	276	—	—	—	—	—
3DPF3	218.2	3.11	—	—	—	1070	2.0	2.0	545	514	506	464	405	324	—	—	—
—	—	—	—	—	—	560	<0.3	—	382	295	259	—	—	—	—	—	—
—	—	—	36WG67	332.5	4.40	810	0.4	<0.3	553	500	487	387	—	—	—	—	—
6WZN8	332.5	4.4	—	—	—	1080	2.5	2.5	737	698	688	635	567	475	334	—	—
3DPF4	352.1	3.2	—	—	—	1080	2.5	2.5	737	698	688	635	567	475	334	—	—
6WZN9	496.4	3.77	—	—	—	1100	1.9	1.7	766	755	752	739	726	702	678	635	418
6WZP0	335	4.87	—	—	—	1600	3.0	3.0	813	784	777	742	707	672	638	603	527
3DPF5	468.8	6.65	—	—	—	950	1.4	2.0	908	852	841	782	715	631	—	—	—
3DPF6	870.8	7.8	—	—	—	1095	2.4	2.3	1182	1110	1093	1013	922	832	743	—	—
6WZP1	912.8	9	—	—	—	1450	3.2	3.2	1584	1543	1533	1483	1439	1395	1345	1293	1181
5AE82	760.8	7.8	—	—	—	1610	4.5	4.5	1672	1618	1604	1543	1484	1427	1367	1307	1172
5AE83*	1313.7	10.5/7.10	—	—	—	1100	4.5	4.1	2249	2175	2156	2044	1900	1701	1424	1114	—

Performance certified is for installation type D: Ducted inlet, Ducted outlet. Performance ratings include the effects of a backdraft damper. Speed (RPM) shown is nominal. Performance is based on actual speed of test. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5 m) in a spherical free field calculated per AMCA Standard 301. Values shown are for installation type D: Ducted inlet spherical sone levels. Ratings do not include the effects of duct end correction. Ratings are based on 10 ft. of insulated duct. The AMCA Certified Ratings Seal applies to air performance only.

ASSEMBLY INSTRUCTIONS

Models 6WZN3, 6WZN4, 6WZN5

1. Insert discharge adapter tabs into the scroll slots, shown in Figure 1.
2. Rotate discharge adapter until the two mounting tabs fully engage into the housing slots, shown in Figure 2.

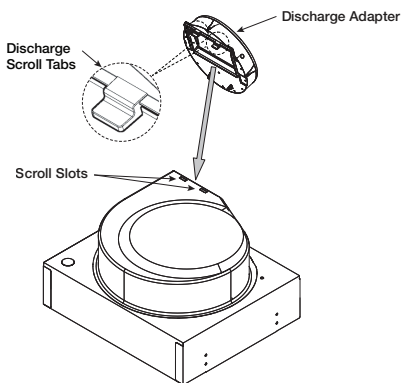


Figure 1

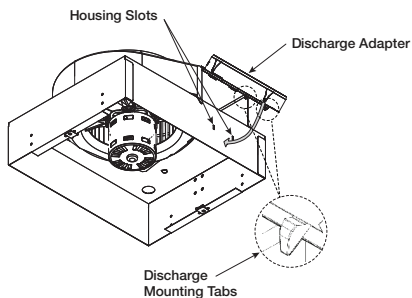


Figure 2

All Models

1. If power assembly (motor, wheel, and scroll) is not installed in housing, insert the electrical plug into fan socket, then slide scroll end of power assembly into fan housing. Attach by using two sheet metal screws provided.
2. Remove either top or side wiring knockout, depending on wiring direction, by bending it back and forth to break tabs, shown in Figure 3.

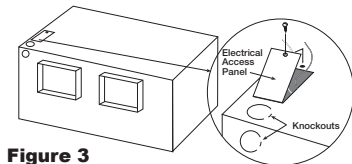


Figure 3

3. Check ductwork to see if the fan's discharge requires rotation from horizontal to vertical discharge, shown in Figure 4.

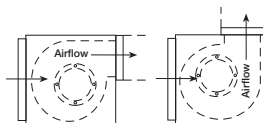


Figure 4

4. Singlewide and doublewide models can be rotated from horizontal to vertical discharge. To rotate from horizontal to vertical discharge, remove the two screws holding the power assembly in, and pull power assembly out. Rotate power assembly 180 degrees and put back into fan. Refer to Figure 5. Use the same screws to reattach power assembly to fan housing. Flip fan over and remove the four screws holding the discharge duct and damper assembly. Exchange the assembly with plate mounted on top of fan.

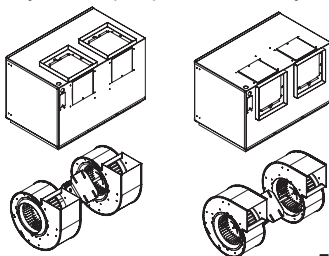


Figure 5

INSTALLATION INSTRUCTIONS

⚠ WARNING *Installation, troubleshooting and parts replacement are to be performed only by qualified personnel in accordance with all applicable codes and standards, including fire-rated construction.*

NOTE: In critical sound installations, the location of these fans must be taken into consideration before installation.

- For best performance, choose a location with the shortest possible duct run and minimum number of elbows. Do not mount intake grille near cooking equipment, shown in Figure 6.

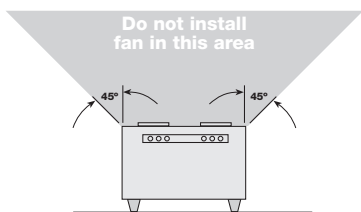


Figure 6

Brackets can be arranged to adapt to most mounting conditions

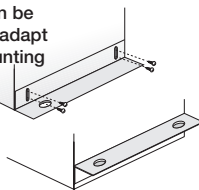


Figure 7

- Attach adjustable mounting brackets to fan, but leave the screws loose until proper height is determined, shown in Figure 7.

- Installation of ductwork is critical to the performance of the fan, shown in Figure 8. Straight ductwork (1) or ductwork that turns in the same direction as the wheel (2) is recommended. Ductwork turning opposite the wheel direction (3) will cause turbulence and back pressure resulting in poor performance.

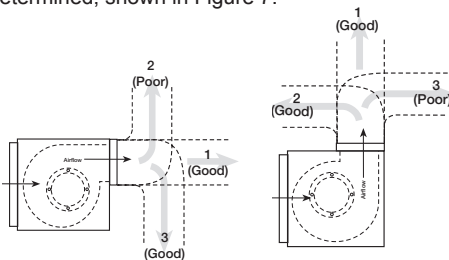
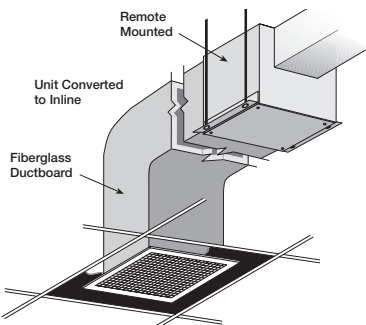


Figure 8

- For low sound applications, fiberglass ductboard is recommended over metal ductwork for reducing fan noise, refer to Figure 9. Where metal duct is used, sound transmission can be reduced with flexible duct connections between the fan and the duct, refer to Figure 10.



6 Figure 9

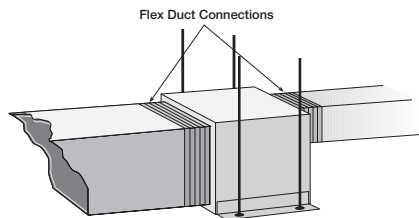


Figure 10

- Slide ductwork over the fan's discharge collar and securely attach it with sheet metal screws. Make sure the screws do not interfere with damper operation.
- Check damper to make sure it opens freely.

Electrical Connection

115 Volt
Black wire is "Hot"
White wire is "Neutral"
Green wire is "Ground"

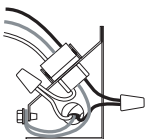


Figure 11

⚠ WARNING *Install all wiring, protection and grounding in accordance with the U.S. National Electrical Code (NEC) and all local requirements.*

⚠ WARNING *Follow all local electrical and safety codes, as well as the U.S. National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).*

- Remove wiring cover.
- Using proper wire connectors, wire the fan as shown in Figure 11.
- Push all wiring into the unit's cover and replace wiring cover.

TROUBLESHOOTING GUIDE

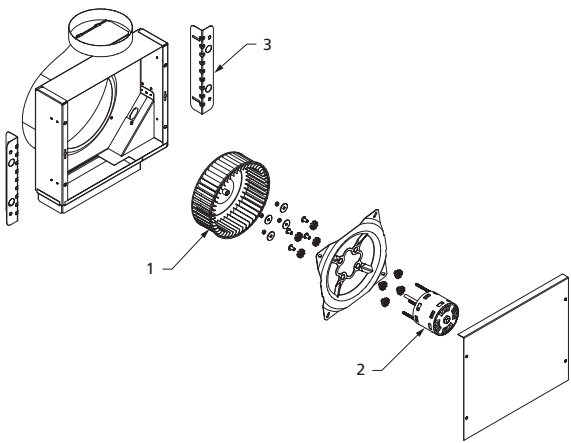
Symptom	Possible Cause(s)	Corrective Action
Ventilator inoperative	<ol style="list-style-type: none"> Blown fuse or breaker Defective motor Incorrectly wired 	<ol style="list-style-type: none"> Replace or repair Replace or repair Shut power OFF and check wiring for proper connections
Excessive noise or vibration	<ol style="list-style-type: none"> Accumulation of material on wheel Fan wheel out of balance 	<ol style="list-style-type: none"> Clean Replace wheel
Insufficient airflow	<ol style="list-style-type: none"> Blocked duct or clogged filters Collapsed or perforated duct 	<ol style="list-style-type: none"> Clean or replace Repair or replace duct section
Motor overloads or overheats	<ol style="list-style-type: none"> Shorted motor winding Incorrect voltage input Buildup of dust, dirt or other contaminants on motor 	<ol style="list-style-type: none"> Replace motor Match to motor voltage Clean motor

MAINTENANCE

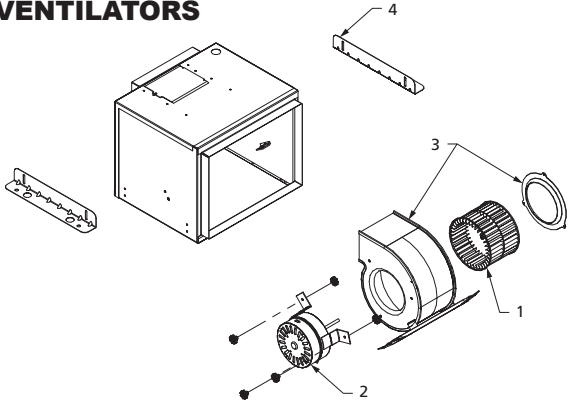
⚠ WARNING *Disconnect the power source before working on the unit. Maintenance should be done yearly or as conditions warrant.*

- The ventilator motor, wheel and housing should be checked for dust and dirt accumulations. Dirt buildup can lead to loss of performance and motor overheating.
 - Unplug motor from the integral terminal box. Vacuum the wheel. If necessary, the wheel can be washed. Wipe the wheel dry with an absorbent cloth. Wipe out the interior of the housing. Plug motor into terminal box.

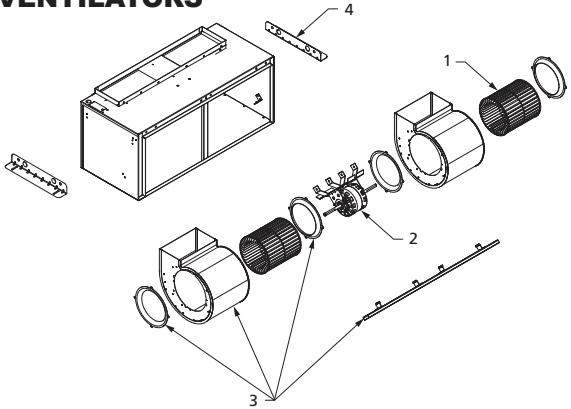
REPAIR PARTS ILLUSTRATION FOR LOW-PROFILE IN-LINE CABINET VENTILATORS



REPAIR PARTS ILLUSTRATION FOR SINGLEWIDE IN-LINE CABINET VENTILATORS



REPAIR PARTS ILLUSTRATION FOR DOUBLEWIDE IN-LINE CABINET VENTILATORS



REPAIR PARTS LIST FOR LOW-PROFILE IN-LINE CABINET

Ref. No.	Description	Part Number for Models:			Quantity
		6WZN3	6WZN4	6WZN5	
1	Wheel	21EC03	21EC03	21EC03	2
2	Motor	21DX71	34G194	21DY25	1
3	Mounting Bracket Kit	21EA90	21EA90	21EA90	1

REPAIR PARTS LIST FOR SINGLEWIDE IN-LINE CABINET VENTILATORS

Ref. No.	Description	Part Number for Models:				Quantity
		3DPE7B	3DPE8B	3DPE9A	3DPF1	
1	Wheel	21EC04	21EC04	21EC05	21EC05	2
2	Motor	21EC38	34G193	21DY28	21EC40	1
3	Scroll Assembly	21EA99	21EA99	21EA98	21EA98	1
4	Mounting Bracket Kit	21EA91	21EA91	21EA92	21EA92	1
		3DPF2	3DPF3	6WZN6A	6WZN7	Quantity
1	Wheel	21EC05	21EC06	21EC05	21DV70	2
2	Motor	21EC11	21EC41	21EC10	21DV63	1
3	Scroll Assembly	21EA98	21EA96	21EA98	21EA96	1
4	Mounting Bracket Kit	21EA92	21EA93	21EA92	21EA93	1
		6WZN8	6WZN9	36WG66	36WG67	Quantity
1	Wheel	21DV69	21EC06	21EC06	21DV69	2
2	Motor	21DV62	21DV64	40JF50	40JF51	1
3	Scroll Assembly	21DV71	21EA96	21EA96	21DV71	1
4	Mounting Bracket Kit	21EA93	21EA93	21EA93	21EA93	1

REPAIR PARTS LIST FOR DOUBLEWIDE IN-LINE CABINET VENTILATORS

Ref. No.	Description	Part Number for Models:				Quantity
		3DPF4	3DPF5	3DPF6	5AE82	
1	Wheel	21EC07	21EC06	21EC06	21EC02 †	2
2	Motor	21EC12	21EC43	21EC44	21EC46	1
3	Scroll Assembly†	21EA97	21EA95	21EA95	21EA94 †	1
4	Mounting Bracket Kit	21EA91	21EA93	21EA93	21EA93	1
		5AE83	6WZP0	6WZP1		Quantity
1	Wheel	21EC01	21EC06	21EC06		2
2	Motor	21EC13	21EC42	21EC45		1
3	Scroll Assembly†	21EC01	21EA96	21EA96		1
4	Mounting Bracket Kit	21EA93	21EA93	21EA93		1

† Includes (2) scrolls and motor bracket fully assembled, requires purchase of (2) wheels if needed. Excludes 5AE83.

‡ For unit 5AE83 Wheel and Scroll Assembly are together as one part.

**For Repair Parts, call 1-800-Grainger
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

DAYTON ONE-YEAR LIMITED WARRANTY

DAYTON ONE-YEAR LIMITED WARRANTY. All Dayton® product 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. If the Dayton product is part of a set, only the portion that is defective is subject to this warranty. Any product or part which is determined to be defective in material or workmanship and returned to an authorized service location, as Dayton or Dayton's designee designates, shipping costs prepaid, will be, as the exclusive remedy, repaired or replaced with a new or reconditioned product or part of equal utility or a full refund given, at Dayton's or Dayton's designee's option, at no charge. For limited warranty claim procedures, see "Warranty Service" below. This warranty is void if there is evidence of misuse, mis-repair, mis-installation, abuse or alteration. This warranty does not cover normal wear and tear of Dayton products or portions of them, or products or portions of them which are consumable in normal use. This limited warranty gives purchasers specific legal rights, and you may also have other rights which vary from jurisdiction to jurisdiction.

WARRANTY DISCLAIMERS AND LIMITATIONS OF LIABILITY RELATING TO ALL CUSTOMERS FOR ALL PRODUCTS

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THIS LIMITED WARRANTY ONLY APPLIES TO UNITED STATES PURCHASERS FOR DELIVERY IN THE UNITED STATES.

WARRANTY SERVICE

To obtain warranty service if you purchased the covered product directly from W.W. Grainger, Inc. ("Grainger"), (i) write or call or visit the local Grainger branch from which the product was purchased or another Grainger branch near you (see www.grainger.com for a listing of Grainger branches); or (ii) contact Grainger by going to www.grainger.com and clicking on the "Contact Us" link at the top of the page, then clicking on the "Email us" link; or (iii) call Customer Care (toll free) at 1-888-361-8649. To obtain warranty service if you purchased the covered product from another distributor or retailer, (i) go to www.grainger.com for Warranty Service; (ii) write or call or visit a Grainger branch near you; or (iii) call Customer Care (toll free) at 1-888-361-8649. In any case, you will need to provide, to the extent available, the purchase date, the original invoice number, the stock number, a description of the defect, and anything else specified in this Dayton One-Year Limited Warranty. You may be required to send the product in for inspection at your cost. You can follow up on the progress of inspections and corrections in the same ways. Title and risk of loss pass to buyer on delivery to common carrier, so if product was damaged in transit to you, file claim with carrier, not retailer, Grainger or Dayton. For warranty information for purchasers and/or delivery outside the United States, please use the following applicable contact information:

**Dayton Electric Mfg. Co.,
100 Grainger Parkway, Lake Forest, IL 60045 U.S.A.
or call +1-888-361-8649**