





Centrifugal Direct-Drive Downblast Exhaust Ventilators

Models 2RB53, 4YC64G-4YC67G, 4YC68H, 4YC69H, 4YC71H-4YC73H, 4YC76J, 4YC77J, 5DVR5-5DVR9, 5DVT0, 5DVT1, 5DVT2A-5DVT4A, 6KWK4-6KWK6, 6KWK7A, 16D527-16D538, 38AX30-38AX32, 48C188-48C190, 48C192, 52CD42 and 52CD43



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: | |

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BEFORE YOU BEGIN

A WARNINGqualified personnel.

Installation, troubleshooting and parts replacement are to be performed only by

A WARNING

Do not use in any kitchen exhaust application.



Electrical Requirements:

 The motor amperage and voltage ratings must be checked for compatibility to supply voltage prior to final electrical connection.
 Wiring must conform to local and national codes.



Tools Needed:

- Dayton® Roof Curb and Mounting Fasteners (8)
- Sealant or Caulk
- Tachometer

Recommended Accessories:

- NEMA 1 Disconnect Switch (1H400, 1H401)
- Non-Ventilated Roof Curb (2RB75-2RB79, 2ZV82, 2ZV83, 5EFJ2)
- Roof Curb Adapter (3AZK1-3AZK9, 3AZL1-3AZL3)
- Hinge Kit (4HX79)
- Speed Control (48C172, 48C173, 43Y140)
- Damper (4HX64-4HX67)

UNPACKING



Contents:

- Dayton® Centrifugal Direct-Drive Downblast Exhaust Ventilator (1)
- 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

Do not depend on any switch as the sole means **A DANGER** of disconnecting power when installing or servicing the ventilator. 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 ventilator or motor openings while motor is connected to power source.

A WARNING

Do not use this equipment in explosive atmospheres.

A CAUTION

To reduce the risk of injury to persons, observe the following:

OSHA requires OSHA complying guards when fan is installed within 7 feet of floor or working level.

UL/cUL Standards require OSHA complying guards when fan is installed within 8 feet of floor or working level.

- Read and follow all instructions and cautionary markings. Make sure electrical power source conforms to requirements of equipment and local codes
- Ventilators should be assembled, installed and serviced by a qualified technician. Have all electrical work performed by a qualified electrician.
- Follow all local electrical and safety codes in the United States and Canada, as well as the National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA) in the United States. Ground motor in accordance with NEC Article 250 (grounding). Follow the Canadian Electric Code (CEC) in Canada.
- 4. Unit must be securely and adequately grounded.
- Do not kink power cable or allow it to come in contact with sharp objects, oil, grease, hot surfaces or chemicals. Replace damaged cords immediately.
- Never open access door to a duct with the ventilator running.

SPECIFICATIONS

US LISTED

Max. Inlet Temp. 130°F

Mounting Location Roof

Housing Material Spun Aluminum

Wheel Type Aluminum, Backward Inclined Centrifugal

Includes NEMA 1 Junction Box. ▲. △

Agency Compliance UL/cUL 705. AMCA Sound and Air

▲ Ventilators 2RB53, 4YC64, 4YC65, 4YC67 5DVR5-5DVR8, 16D527-16D534 feature 3-speed motors

Δ Electronically commutated ventilators 5DVT2A–5DVT4A, 38AX30–38AX32, 48C188–48C192, 52CD42, 52CD43 include motor mounted potentiometer dial to adjust speed. Optional remote mount speed control kits 43Y140, 35YV92-35YV94 can be purchased separately.

Dimensions (inches)

| Dimensions (inc | <u>cnes)</u> | | | | | | |
|-----------------------------------|--------------------------------------|------------------------------------|---|------------------------|-------------------------|------------------|------------------|
| | 16D527 16D528 16D529 16D530 | 4YC64G 4YC65G 5DVR5 5DVR6 | 16D531 16D532 16D533 | 48C188 48C189 | 2RB53 5DVR7 5DVR8 | 16D534 | 4YC66G 4YC67G |
| Base Size (Sq.) | 17 | 19 | 17 | 17 | 19 | 17 | 19 |
| Wheel Dia. | 8-1/4 | 8-1/4 | 8-1/4 | 8-1/4 | 8-1/4 | 10-1/2 | 10-1/2 |
| Shaft Dia. | 5/16 | 5/16 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 |
| Recommended Roof Opening (Sq.) | 12 | 14-1/2 | 12 | 12 | 14-1/2 | 12 | 14-1/2 |
| Recommended Damper Size (Sq.) | 9-1/2 | _ | 9-1/2 | 9-1/2 | _ | 9-1/2 | 12 |
| Recommended Speed Control | 48C172 | 48C172 | 48C172 | 43Y140 | 48C172 | 48C172 | 48C172 |
| | 16D535 | 52CD42 | 5DVR9 5DVT0 6KWK4 6KWK5 6KWK6 | 5DVT2A | 16D536 | 4YC68H 4YC69H | 5DVT3A |
| Base Size (Sq.) | 19 | 19 | 22 | 22 | 19 | 22 | 22 |
| Wheel Dia. | 11 | 11 | 11 | 11 | 13-1/4 | 13-1/4 | 13-1/4 |
| Shaft Dia. | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 |
| Recommended Roof Opening (Sq.) | 14-1/2 | 14-1/2 | 17-1/2 | 17-1/2 | 14-1/2 | 17-1/2 | 17-1/2 |
| Recommended Damper Size (Sq.) | 12 | 12 | 15 | 15 | 12 | 15 | 15 |
| Recommended Speed Control | 48C172 | 43Y140 | 48C172 | 43Y140 | 48C172 | 48C172 | 43Y140 |
| | 16D537 | 16D538 | 38AX30 48C190 | 4YC71H | 52CD43 | 5DVT1 | 5DVT4A 38AX31 |
| Base Size (Sq.) | 19 | 19 | 19 | 22 | 22 | 22 | 26 |
| Wheel Dia. | 13-3/4 | 13-3/4 | 13-3/4 | 13-3/4 | 3-3/4 | 13-3/4 | 14-3/4 |
| Shaft Dia. | 1/2 | 1/2 | 5/8 | 1/2 | 1/2 | 1/2 | 5/8 |
| Recommended Roof Opening (Sq.) | 14-1/2 | 14-1/2 | 14-1/2 | 17-1/2 | 17-1/2 | 17-1/2 | 21-1/2 |
| Recommended Damper Size (Sq.) | 12 | 12 | 12 | 15 | 15 | 15 | 19 |
| Recommended Speed Control | 48C173 at 115V only | 48C172 | 43Y140 | 48C173 at 115V only | 43Y140 | 48C172 | 43Y140 |
| | 4YC72H 4YC73H | 4YC76J | 38AX32 48C192 | 4YC77J | 6KWK7A | | |
| Base Size (Sq.) | 26 | 30 | 30 | 30 | 30 | | |
| Wheel Dia. | 16-3/4 | 18-1/2 | 18-1/2 | 18-1/2 | 18-1/2 | | |
| Shaft Dia. | 1/2 | 5/8 | 5/8 | 1/2 | 5/8 | | |
| Recommended Roof Opening (Sq.) | 21-1/2 | 25-1/2 | 25-1/2 | 25-1/2 | 25-1/2 | | |
| Recommended Damper Size (Sq.) | 19 | 23 | 23 | 23 | 23 | | |
| Recommended Speed Control | 48C172 | 48C172 | 43Y140 | 48C173 at 115V only | _ | | |
| | | | | | | | _ |



PERFORMANCE

| Model 115V, 1-Phase | НР | Model – ECM 115V, 1-Phase | НР | RPM | Max BHP | Sones @ .250" SP @ 5 Ft. |
|------------------------|------|------------------------------|-----|------|------------|-----------------------------|
| | | | | 1050 | 0.01 | _ |
| 5DVR5, 16D527 | 1/60 | _ | | 1300 | 0.01 | _ |
| | | | | 1550 | 0.02 | 3.7 |
| | | | | 1050 | 0.01 | _ |
| 5DVR6, 16D528 | 1/30 | _ | _ | 1300 | 0.01 | 2.7 |
| | | | | 1550 | 0.02 | 4.3 |
| | | | | 1050 | 0.01 | _ |
| 4YC64G, 16D529 | 1/30 | _ | _ | 1300 | 0.02 | 2.6 |
| | | | | 1550 | 0.03 | 4.7 |
| | | | | 1050 | 0.01 | _ |
| 4YC65G, 16D530 | 1/25 | _ | _ | 1300 | 0.02 | 3.5 |
| | | | | 1550 | 0.04 | 4.9 |
| | | | | 1050 | 0.02 | 4.2 |
| 5DVR7, 16D531 | 1/20 | _ | _ | 1300 | 0.03 | 5.5 |
| | | | | 1550 | 0.06 | 7.2 |
| _ | _ | | | 860 | 0.01 | _ |
| | | | | 1050 | 0.02 | 4.3 |
| 2RB53, 16D532 | 1/20 | 48C188 | 1/6 | 1300 | 0.04 | 5.3 |
| | | 400100 | 1/0 | 1550 | 0.06 | 7.4 |
| _ | _ | | | 1140 | 0.03 | 4.5 |
| _ | _ | | | 1725 | 0.09 | 9.3 |
| _ | _ | | | 860 | 0.01 | _ |
| | | | | 1050 | 0.02 | 4.2 |
| 5DVR8, 16D533 | 1/15 | 48C189 | 1/6 | 1300 | 0.05 | 5.5 |
| | | 400109 | 1/0 | 1550 | 80.0 | 7.4 |
| _ | _ | | | 1140 | 0.03 | 4.6 |
| _ | _ | | | 1725 | 0.11 | 9.4 |
| 4YC66G | 1/8 | _ | _ | 1050 | 0.04 | 4.5 |
| | | | | 1050 | 0.04 | 4.5 |
| 4YC67G, 16D534 | 1/8 | _ | _ | 1300 | 0.07 | 6.4 |
| | | | | 1550 | 0.12 | 8.8 |
| 6KWK4 | 1/8 | _ | _ | 860 | 0.02 | 3.4 |
| 6KWK5 | 1/6 | _ | _ | 1140 | 0.06 | 6.1 |
| 6KWK6 | 1/4 | _ | _ | 1725 | 0.19 | 12.3 |
| _ | _ | | | 1300 | 0.07 | _ |
| _ | _ | 52CD42 | 1/2 | 1725 | 0.16 | _ |
| | _ | | | 2500 | 0.48 | _ |

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 AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

| .000" | .125" | .250" | .375" | y @ Static .500" | .750" | .875" | 1.00" | 1.2 |
|-------|-------|-------|-------|---------------------|-------|-------|-------|-----|
| 138 | 73 | _ | _ | _ | _ | _ | _ | _ |
| 170 | 125 | _ | _ | _ | _ | _ | _ | _ |
| 203 | 166 | 120 | _ | _ | _ | _ | _ | _ |
| 187 | 110 | _ | _ | _ | _ | _ | _ | _ |
| 231 | 178 | 92 | _ | _ | _ | _ | _ | _ |
| 276 | 232 | 176 | 96 | _ | _ | _ | _ | _ |
| 253 | 179 | _ | _ | _ | _ | _ | _ | _ |
| 314 | 257 | 171 | _ | _ | _ | _ | _ | _ |
| 374 | 327 | 274 | 190 | _ | _ | _ | _ | _ |
| 297 | 200 | _ | _ | _ | _ | _ | _ | _ |
| 367 | 293 | 195 | _ | _ | _ | _ | _ | _ |
| 438 | 377 | 309 | 214 | _ | _ | _ | _ | _ |
| 335 | 249 | 134 | _ | _ | _ | _ | _ | _ |
| 415 | 348 | 272 | 174 | _ | _ | _ | _ | _ |
| 495 | 439 | 379 | 314 | 237 | _ | _ | _ | _ |
| 326 | 208 | _ | _ | _ | _ | _ | _ | _ |
| 398 | 307 | 179 | _ | _ | _ | _ | _ | _ |
| 493 | 420 | 340 | 233 | _ | _ | _ | _ | _ |
| 588 | 528 | 464 | 394 | 308 | _ | _ | _ | _ |
| 432 | 349 | 247 | _ | _ | _ | _ | _ | _ |
| 654 | 602 | 544 | 486 | 419 | 222 | _ | _ | _ |
| 426 | 298 | _ | _ | _ | _ | _ | _ | _ |
| 520 | 420 | 293 | _ | _ | _ | _ | _ | _ |
| 644 | 565 | 478 | 373 | _ | _ | _ | _ | _ |
| 768 | 701 | 633 | 557 | 473 | _ | _ | _ | _ |
| 565 | 474 | 367 | _ | _ | _ | _ | _ | _ |
| 855 | 794 | 735 | 671 | 600 | 406 | _ | _ | _ |
| 717 | 570 | 389 | _ | _ | _ | _ | _ | _ |
| 717 | 570 | 389 | _ | _ | _ | _ | _ | _ |
| 888 | 780 | 640 | 493 | 184 | _ | _ | _ | _ |
| 1059 | 969 | 863 | 745 | 623 | _ | _ | _ | _ |
| 431 | 358 | 261 | _ | _ | _ | _ | _ | _ |
| 571 | 517 | 460 | 396 | 283 | _ | _ | _ | |
| 864 | 829 | 793 | 756 | 719 | 640 | 592 | 527 | _ |
| | _ | _ | _ | 342 | | _ | | |
| _ | _ | _ | _ | 613 | 521 | _ | 364 | _ |
| | | | | 1008 | 956 | 928 | 901 | 84 |

Performance certified is for installation type A: Free inlet, Free outlet. Performance ratings include the effects of a birdscreen in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: Free inlet hemispherical sone levels.



PERFORMANCE CONTINUED

| Model 115V, 1-Phase | НР | Model – ECM 115V, 1-Phase | НР | RPM | Max BHP | Sones @ .250" SP @ 5 Ft. |
|------------------------|-----|------------------------------|-----|------|------------|-----------------------------|
| _ | _ | | | 860 | 0.04 | 2.9 |
| 5DVR9 | 1/6 | 5DVT2A | 1/4 | 1140 | 0.09 | 5.7 |
| 5DVT0, 16D535 | 1/4 | | | 1725 | 0.29 | 11.4 |
| _ | _ | | | 1020 | 80.0 | _ |
| _ | _ | 52CD43 | 3/4 | 1725 | 0.39 | _ |
| _ | _ | | | 2200 | 0.82 | _ |
| 4YC68H | 1/8 | | | 860 | 0.06 | 5.2 |
| _ | _ | 5DVT3A | 1/2 | 1140 | 0.14 | 8.4 |
| 4YC69H, 16D536 | 1/3 | | | 1725 | 0.50 | 17.0 |
| _ | _ | | | 860 | 0.07 | 6.3 |
| 5DVT1, 16D538 | 1/6 | 48C190, 38AX30‡ | 3/4 | 1140 | 0.17 | 9.6 |
| 4YC71H*, 16D537* | 1/2 | | | 1725 | 0.60 | 16.7 |
| _ | _ | | | 1050 | 0.24 | 9.0 |
| _ | _ | 5DVT4A, 38AX31‡ | 3/4 | 1300 | 0.46 | 12.9 |
| _ | _ | | | 1550 | 0.79 | 17.4 |
| 4YC72H | 1/3 | _ | - | 1140 | 0.30 | 10.4 |
| 4YC73H | 1/4 | _ | _ | 860 | 0.26 | 9.6 |
| _ | _ | | | 730 | 0.26 | 7.2 |
| _ | _ | 40C402 20AV22± | 4 | 810 | 0.35 | 8.7 |
| 4YC76J | 1/3 | 48C192, 38AX32‡ | 1 | 860 | 0.42 | 9.8 |
| _ | _ | | | 900 | 0.48 | 10.9 |

1140

0.98

16.8

4YC77J*, 6KWK7A†

3/4

^{* 115/230}V, 1-Phase ‡ 208-230V, 1-Phase

^{† 208-230/460}V, 3-Phase

| | | CFM A | ir Delivery | ∕ @ Static | Pressure | Shown | | |
|-------|-------|-------|-------------|------------|----------|-------|-------|-------|
| .000" | .125" | .250" | .375" | .500" | .750" | .875" | 1.00" | 1.25" |
| 729 | 623 | 473 | _ | _ | _ | _ | | |
| 966 | 883 | 805 | 702 | 507 | _ | _ | _ | _ |
| 1462 | 1405 | 1351 | 1298 | 1250 | 1126 | 1052 | 955 | _ |
| _ | _ | _ | _ | 488 | _ | _ | _ | _ |
| _ | _ | _ | _ | 1213 | 1132 | 1085 | 1035 | 932 |
| _ | _ | _ | _ | 1623 | 1562 | 1532 | 1500 | 1436 |
| 1043 | 932 | 796 | 580 | _ | _ | _ | _ | _ |
| 1383 | 1300 | 1213 | 1112 | 993 | _ | _ | _ | _ |
| 2093 | 2038 | 1984 | 1928 | 1871 | 1743 | 1673 | 1600 | 1426 |
| 1221 | 1106 | 962 | 727 | _ | _ | _ | _ | _ |
| 1618 | 1535 | 1444 | 1340 | 1211 | _ | _ | _ | _ |
| 2448 | 2393 | 2338 | 2281 | 2220 | 2089 | 2018 | 1935 | 1746 |
| 1948 | 1833 | 1719 | 1590 | 1418 | _ | _ | _ | _ |
| 2412 | 2318 | 2228 | 2135 | 2033 | 1777 | 1611 | 1355 | _ |
| 2875 | 2797 | 2719 | 2644 | 2566 | 2396 | 2299 | 2191 | 1910 |
| 1813 | 1731 | 1648 | 1562 | 1471 | 1257 | 1100 | 875 | _ |
| 2540 | 2344 | 2145 | 1913 | 1596 | _ | _ | _ | _ |
| 2839 | 2668 | 2469 | 2213 | 1882 | _ | _ | _ | _ |
| 3150 | 2997 | 2832 | 2624 | 2375 | _ | _ | _ | _ |
| 3344 | 3202 | 3049 | 2863 | 2647 | 2015 | _ | _ | _ |
| 3500 | 3364 | 3219 | 3052 | 2858 | 2347 | 1821 | _ | _ |
| 4433 | 4329 | 4216 | 4102 | 3980 | 3684 | 3515 | 3328 | 2856 |

Performance certified is for installation type A: Free inlet, Free outlet. Performance ratings include the effects of a birdscreen in the airstream. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: Free inlet hemispherical sone levels.

Dayton

INSTALLATION INSTRUCTIONS

A WARNINGqualified personnel.

Installation, troubleshooting and parts replacement are to be performed only by

A CAUTION

Lift unit on the roof utilizing hooks under the lip of the shroud. Using a minimum of four lifting straps, evenly space the hooks around the shroud. Use a spreader bar to ensure the straps do not come in contact with the ventilator.

Roof-Mount Installation

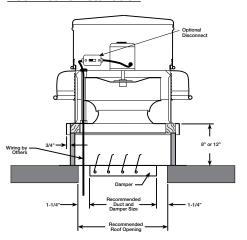


Figure 1

NOTE: Mount unit with a Dayton® roof curb (purchased separately).

- Cut an appropriate sized hole in the roof surface, refer to Dimensions.
 Follow curb manufacturer's installation instructions. Caulk and flash curb to ensure a water tight seal.
- Install optional backdraft damper. Secure damper flange to curb damper tray.
- Remove motor compartment cover by removing fasteners. Place cover on a flat surface in an area protected from strong winds.
- Lift and place the unit on top of roof curb using hooks under the lip of the shroud.
- Secure ventilator to roof curb using a minimum of eight suitable fasteners.
- Verify power line wiring is de-energized before connecting ventilator motor to power source.
- Check the power source for compatibility with the requirements of your equipment.

A WARNINGComply with all local and national safety codes including the National Electrical Code (NEC) and National Fire Protection Act (NFPA).

- 8. Motor and ventilator must be securely grounded (bare metal) to a suitable electric ground, such as a grounded water pipe or ground wire system.
- Connect power supply wiring to the motor as indicating on the motor nameplate, refer to Figure 2 for connection wiring diagram.

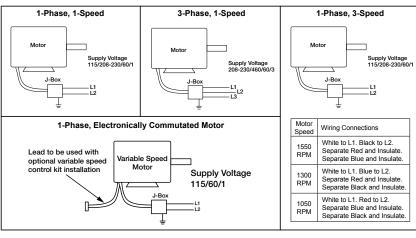
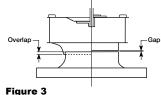


Figure 2

- Mount and wire safety disconnect switch under motor cover. Wire control switches at ground level, refer to switch manufacturer for installation and wiring procedures.
- 11. Rotate the wheel by hand to ensure that it does not rub and rotates freely. Wheel position is preset and the unit is test run at the factory. Movement may occur during shipment and realignment may be necessary. Refer to Figure 3 and chart for proper overlap dimensions.
 - a. Wheel and inlet cone overlap can be adjusted by loosening the set screws in the wheel and moving the wheel to the desired position. Tighten all fasteners and set screws securely.



48C190, 4YC68H, 4YC69H, 4YC71H, 4YC72H, 4YC73H, 2RB53, 5DVR5, 5DVR6, 5DVR7, 5DVR8, 16D527, 5DVR9, 5DVT0, 5DVT1, 16D528, 16D529, 16D530, 5DVT2A, 5DVT3A, 5DVT4A, 4YC77J, 16D531, 16D532, 16D533, 6KWK4, 6KWK5, 6KWK6, 4YC76J. 16D534, 48C188, 48C189, 16D535, 16D536, 16D537, 6KWK7A, 4YC64G, 4YC65G, 16D538, 38AX30, 38AX31, 38AX32, 4YC66G, 4YC67G 52CD42, 52CD43 48C192 Overlap (inches) 1/4 3/8 Gap (inches) 3/32

- 12. Check all fasteners for tightness.
- Replace motor cover.



OPERATION

- Before starting up or operating the unit, check all fasteners for tightness. In particular, check set screws in wheel hub. While in the OFF position, or before connecting the ventilator to power, turn the ventilator wheel by hand to be sure it is not striking the orifice or any obstacle.
- Check wheel rotation (viewing from the shaft side) by momentarily energizing the unit. Rotation should be clockwise and correspond to the rotation decal on the unit.

IMPORTANT: Rotation of the wheel is critical and incorrect rotation will result in reduced air performance, increased motor loading and possible motor burnout.

- 3. When the ventilator is started, observe the operation and check for any unusual noises.
- 4. With the system in full operation and all ductwork attached, measure current (amps) input to the motor and compare with the nameplate rating (full-load amps) to determine if the motor is operating under safe load conditions.
- Keep inlets and approaches to ventilator clean and free from obstruction.
- 6. Electronically commutated motors can be controlled two ways:



Figure 4

- a. A motor mounted potentiometer is mounted on the case of the motor to adjust the speed manually. See Figure 4. Turn the potentiometer using a screwdriver to adjust the speed.
- b. The motor includes a capped motor lead that can be connected to a Dayton variable-speed control kit. The motor lead cap can be removed and connected to the nine-pin motor/transformer harness lead. Follow installation instructions provided with optional speed control kit



Remote Touch 35YV94



Remote Dial 43Y140



2-Speed 35YV92



Temp/Humidity 35YV93

- 7. Inspection of the ventilator should be conducted at the first 30 minutes and 24 hour intervals of satisfactory operation.
 - a. 30 Minute Interval Inspect bolts, set screws and motor mounting bolts. Adjust and tighten as necessary.
 - b. 24 Hour Interval Check all internal components.

TROUBLESHOOTING GUIDE

| Symptom | Possible Cause(s) | Corrective Action |
|----------------------|--|---|
| Ventilator | Blown fuse or breaker | Replace or repair |
| inoperative | 2. Defective motor | 2. Replace or repair |
| | 3. Incorrectly wired | 3. Shut power OFF and check wiring for proper connections |
| Excessive noise | 1. Loose wheel | Tighten set screws |
| or vibration | Accumulation of material on wheel | 2. Clean |
| | Ventilator base not securely anchored | 3. Secure properly |
| | Motor cover loose and rattling | Tighten acorn nuts securing motor cover |
| | 5. Fan wheel out of balance | 5. Replace wheel |
| Insufficient airflow | 1. Blocked duct or clogged filters | Clean or replace |
| | 2. Damper closed | 2. Inspect/repair |
| | 3. Incorrect wheel rotation | 3. Check motor wiring |
| | Loose fitting duct sections permitting air loss | Check for secure connection where duct sections are joined (suggest duct tape at seams for sealed closure) |
| Motor overloads | Shorted motor winding | Replace motor |
| or overheats | 2. Incorrect wheel rotation | 2. Check motor wiring |
| | 3. Over/Under line voltage | 3. Contact Power Company |

MAINTENANCE

▲ WARNING

Disconnect and lockout power source before servicing.



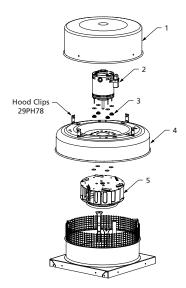
Uneven cleaning of the wheel will produce an out of balance condition that will cause

vibration in the ventilator.

- Depending on the usage, a regularly scheduled inspection for cleaning the ventilator wheel, housing and surrounding areas should be established.
- Keep inlets and approaches to ventilator clean and free from obstruction.
- 3. Check for unusual noises when ventilator is running.
- 4. Periodically inspect and tighten set screws.
- 5. Follow motor manufacturer's instructions for motor lubrication.
- 6. For critical applications, a spare motor should be available.



REPAIR PARTS ILLUSTRATION FOR CENTRIFUGAL DIRECT-DRIVE DOWNBLAST EXHAUST VENTILATORS



REPAIR PARTS LIST FOR CENTRIFUGAL DIRECT-DRIVE DOWNBLAST EXHAUST VENTILATORS

| Ref. No. | Description | Part Num 2RB53 | ber for Mo 4YC64G | dels: 4YC65G | 4YC66G | 4YC67G | 4YC68H | Qty. |
|----------------|--------------------------------|----------------------------|---------------------------|----------------------------|----------------------|-------------------------|----------------------|-------------|
| 1 | Motor Cover | 21DZ21 | 21DZ19 | 21DZ19 | 21DZ21 | 21DZ21 | 21DZ23 | 1 |
| 2 | Motor | 1AGF8 | 4YU32 | 4YU33 | 4YU34 | 4YU34 | 4YU19 | 1 |
| 3 | Isolator Kit | 21DZ08 | 21DZ08 | 21DZ08 | 21DZ08 | 21DZ08 | 21DY93 | 1 |
| 4 | Shroud | 21DY94 | 21DZ20 | 21DZ20 | 21DY94 | 21DY94 | 21DW43 | 1 |
| 5 | Wheel | 21DP30 | 21DY85 | 21DY86 | 21DY87 | 21DY87 | 21EC48 | 1 |
| | | | | | _ | | | |
| Ref. | | Part Num | nber for Mo | dels: | | | | |
| Ref. No. | Description | Part Num 4YC69H | nber for Mo 4YC71H | odels: 4YC72H | 4ҮС73Н | 4YC76J | 4YC77J | Qty. |
| _ | Description Motor Cover | | | | 4YC73H 21DZ24 | 4YC76J 21DZ25 | 4YC77J 21DZ25 | Qty. |
| No. | | 4YC69H | 4YC71H | 4YC72H | | | | _ |
| No. | Motor Cover | 4YC69H 21DZ23 | 4YC71H 21DZ23 | 4YC72H 21DZ24 | 21DZ24 | 21DZ25 | 21DZ25 | 1 |
| No. 1 2 | Motor Cover Motor | 4YC69H 21DZ23 4YU28 | 4YC71H 21DZ23 4YU28 | 4YC72H 21DZ24 6TWL4 | 21DZ24 4YU20 | 21DZ25 4YU21 | 21DZ25 4YY55 | 1 |

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

| Ref. | | Part Num | ber for Mo | dels: | | | | |
|---|---|--|--|--|---|---|---|---|
| No. | Description | 5DVR5 | 5DVR6 | 5DVR7 | 5DVR8 | 5DVR9 | 5DVT0 | Qty. |
| 1 | Motor Cover | 21DZ19 | 21DZ19 | 21DZ21 | 21DZ21 | 21DZ23 | 21DZ23 | 1 |
| 2 | Motor | 21DW27 | 4YU32 | 1AGF8 | 21DW28 | 4YU23 | 4YU27 | 1 |
| 3 | Isolator Kit | 21DZ08 | 21DZ08 | 21DZ08 | 21DZ08 | 21DY93 | 21DY93 | 1 |
| 4 | Shroud | 21DZ20 | 21DZ20 | 21DY94 | 21DY94 | 21DW42 | 21DW42 | 1 |
| 5 | Wheel | 21DW32 | 21DY84 | 21DW33 | 21DW34 | 21DY91 | 21DY91 | 1 |
| Ref. No. | Description | Part Num 5DVT1 | ber for Mo 5DVT2A | odels: 5DVT3A | 5DVT4A | 6KWK4 | 6KWK5 | Qty. |
| 1 | Motor Cover | 21DZ23 | 21DZ23 | 21DZ23 | 21DZ24 | 21DZ23 | 21DZ23 | 1 |
| 2 | Motor | 4YU23 | 43Y136 | 43Y137 | 43Y138 | 4YU19 | 4YU23 | 1 |
| 3 | Isolator Kit | 21DY93 | 21DY93 | 21DY93 | 21DY93 | 21DY93 | 21DY93 | 1 |
| 4 | Shroud | 21DW44 | 21DW42 | 21DW43 | 21DW45 | 53F572 | 21DW43 | 1 |
| 5 | Wheel | 21DZ46 | 21DY91 | 21EC48 | 29PH76 | 21DV75 | 21DV75 | 1 |
| Ref. | | Part Num | ber for Mo | dels: | | | | |
| No. | Description | 6KWK6 | 6KWK7A | 16D527 | 16D528 | 16D529 | 16D530 | Qty. |
| 1 | Motor Cover | 21DZ23 | 21EA28 | 21DZ19 | 21DZ19 | 21DZ19 | 21DZ19 | 1 |
| 2 | Motor | 4YU27 | 21DV61 | 21DW27 | 4YU32 | 4YU32 | 4YU33 | 1 |
| 3 | Isolator Kit | 21DY93 | 21EA25 | 21DZ08 | 21DZ08 | 21DZ08 | 21DZ08 | 1 |
| 4 | Shroud | 21DW43 | 21DW16 | 21DZ20 | 21DZ20 | 21DZ20 | 21DZ20 | 1 |
| 5 | Wheel | 21DV75 | 21DW17 | 21DW32 | 21DY84 | 21DY85 | 21DY86 | 1 |
| Ref. | | Dord Num | ber for Mo | deler | | | | |
| _ | Daniel die | | | | 400524 | 400505 | 400520 | 04== |
| No. | Description | 16D531 | 16D532 | 16D533 | 16D534 | 16D535 | 16D536 | Qty. |
| No. | Motor Cover | 16D531 21DZ21 | 16D532 21DZ21 | 16D533 21DZ21 | 21DZ21 | 21DZ23 | 21DZ23 | 1 |
| No. 1 2 | Motor Cover Motor | 16D531 21DZ21 1AGF8 | 16D532 21DZ21 1AGF8 | 16D533 21DZ21 21DW28 | 21DZ21 4YU34 | 21DZ23 4YU27 | 21DZ23 4YU28 | 1 |
| 1 2 3 | Motor Cover Motor Isolator Kit | 16D531 21DZ21 1AGF8 21DZ08 | 16D532 21DZ21 1AGF8 21DZ08 | 16D533 21DZ21 21DW28 21DZ08 | 21DZ21 4YU34 21DZ08 | 21DZ23 4YU27 21DY93 | 21DZ23 4YU28 21DY93 | 1 1 1 |
| 1 2 3 4 | Motor Cover Motor Isolator Kit Shroud | 16D531 21DZ21 1AGF8 21DZ08 21DY94 | 16D532 21DZ21 1AGF8 21DZ08 21DY94 | 16D583 21DZ21 21DW28 21DZ08 21DY94 | 21DZ21 4YU34 21DZ08 21DY94 | 21DZ23 4YU27 21DY93 21DW42 | 21DZ23 4YU28 21DY93 21DW43 | 1 1 1 |
| 1 2 3 | Motor Cover Motor Isolator Kit | 16D581 21DZ21 1AGF8 21DZ08 21DY94 21DW33 | 16D532 21DZ21 1AGF8 21DZ08 21DY94 21DP30 | 21DZ21 21DW28 21DZ08 21DZ08 21DY94 21DW34 | 21DZ21 4YU34 21DZ08 | 21DZ23 4YU27 21DY93 | 21DZ23 4YU28 21DY93 | 1 1 1 |
| No. 1 2 3 4 5 | Motor Cover Motor Isolator Kit Shroud Wheel | 16D531 21DZ21 1AGF8 21DZ08 21DY94 21DW33 | 21DZ21 1AGF8 21DZ08 21DY94 21DP30 | 21DZ21 21DW28 21DZ08 21DZ08 21DY94 21DW34 | 21DZ21 4YU34 21DZ08 21DY94 21DY87 | 21DZ23 4YU27 21DY93 21DW42 21DY91 | 21DZ23 4YU28 21DY93 21DW43 21EC48 | 1 1 1 1 |
| No. 1 2 3 4 5 Ref. No. | Motor Cover Motor Isolator Kit Shroud Wheel | 16D531 21DZ21 1AGF8 21DZ08 21DY94 21DW33 Part Num 16D537 | 16D532 21DZ21 1AGF8 21DZ08 21DY94 21DP30 aber for Mo 16D538 | 21DZ21 21DW28 21DZ08 21DY94 21DW34 21DW34 | 21DZ21 4YU34 21DZ08 21DY94 21DY87 | 21DZ23 4YU27 21DY93 21DW42 21DY91 | 21DZ23 4YU28 21DY93 21DW43 21EC48 | 1 1 1 1 1 Qty. |
| No. 1 2 3 4 5 Ref. No. | Motor Cover Motor Isolator Kit Shroud Wheel Description Motor Cover | 16D531 21DZ21 1AGF8 21DZ08 21DY94 21DW33 Part Num 16D537 21DZ23 | 16D532 21DZ21 1AGF8 21DZ08 21DY94 21DP30 aber for Mo 16D538 21DZ23 | 21DZ21 21DW28 21DZ08 21DY94 21DW34 21DW34 21DW34 21DZ23 | 21DZ21 4YU34 21DZ08 21DY94 21DY87 38AX31 21DZ24 | 21DZ23 4YU27 21DY93 21DW42 21DY91 38AX32 21DZ25 | 21DZ23 4YU28 21DY93 21DW43 21EC48 48C188 21DZ21 | 1 1 1 1 1 Qty. |
| No. 1 2 3 4 5 Ref. No. 1 2 | Motor Cover Motor Isolator Kit Shroud Wheel Description Motor Cover Motor | 16D531 21DZ21 1AGF8 21DZ08 21DY94 21DW33 Part Num 16D537 21DZ23 4YU28 | 21DZ21 1AGF8 21DZ08 21DY94 21DP30 21DP30 21DZ33 4YU23 | 21DZ21 21DW28 21DZ08 21DY94 21DW34 21DW34 21DZ3 41TL06 | 21DZ21 4YU34 21DZ08 21DY94 21DY87 38AX31 21DZ24 41TL06 | 21DZ23 4YU27 21DY93 21DW42 21DY91 38AX32 21DZ25 41TL07 | 21DZ23 4YU28 21DY93 21DW43 21EC48 48C188 21DZ21 43Y135 | 1 1 1 1 1 Qty. |
| No. 1 2 3 4 5 Ref. No. 1 2 3 | Motor Cover Motor Isolator Kit Shroud Wheel Pescription Motor Cover Motor Isolator Kit | 16D531 21DZ21 1AGF8 21DZ08 21DY94 21DW33 Part Num 16D537 21DZ23 4YU28 21DY93 | 16D532 21DZ21 1AGF8 21DZ08 21DY94 21DP30 16D538 21DZ23 4YU23 21DZ93 | 21DZ21 21DW28 21DZ08 21DY94 21DW34 21DW34 21DZ23 41TL06 21DY93 | 21DZ21 4YU34 21DZ08 21DY94 21DY87 38AX31 21DZ24 41TL06 21DY93 | 21DZ23 4YU27 21DY93 21DW42 21DY91 38AX32 21DZ25 41TL07 21DY93 | 21DZ23 4YU28 21DY93 21DW43 21EC48 48C188 21DZ21 43Y135 21DZ08 | 1 1 1 1 1 1 Qty. 1 |
| No. 1 2 3 4 5 Ref. No. 1 2 3 4 | Motor Cover Motor Isolator Kit Shroud Wheel Pescription Motor Cover Motor Isolator Kit Shroud | 16D531 21DZ21 1AGF8 21DZ08 21DY94 21DW33 Part Num 16D537 21DZ23 4YU28 21DY93 21DW44 | 16D532 21DZ21 1AGF8 21DZ08 21DY94 21DP30 16D538 21DZ23 4YU23 21DZ93 21DW44 | 21DZ21 21DW28 21DZ08 21DY94 21DW34 21DW34 21DZ23 41TL06 21DY93 21DW44 | 21DZ21 4YU34 21DZ08 21DY94 21DY87 38AX81 21DZ24 41TL06 21DY93 21DW45 | 21DZ23 4YU27 21DY93 21DW42 21DY91 38AX32 21DZ25 41TL07 21DY93 21DW16 | 21DZ23 4YU28 21DY93 21DW43 21EC48 48C188 21DZ21 43Y135 21DZ08 21DZ94 | 1 1 1 1 1 Qty. 1 1 1 |
| No. 1 2 3 4 5 Ref. No. 1 2 3 | Motor Cover Motor Isolator Kit Shroud Wheel Pescription Motor Cover Motor Isolator Kit | 16D531 21DZ21 1AGF8 21DZ08 21DY94 21DW33 Part Num 16D537 21DZ23 4YU28 21DY93 21DW44 21DZ46 | 21DZ21 1AGF8 21DZ08 21DY94 21DP30 16D538 21DZ23 4YU23 21DY93 21DW44 21DZ46 | 21DZ21 21DW28 21DZ08 21DY94 21DW34 21DW34 21DZ23 41TL06 21DY93 21DW44 21DY09 | 21DZ21 4YU34 21DZ08 21DY94 21DY87 38AX31 21DZ24 41TL06 21DY93 | 21DZ23 4YU27 21DY93 21DW42 21DY91 38AX32 21DZ25 41TL07 21DY93 | 21DZ23 4YU28 21DY93 21DW43 21EC48 48C188 21DZ21 43Y135 21DZ08 | 1 1 1 1 1 1 Qty. 1 |
| No. 1 2 3 4 5 Ref. No. 1 2 3 4 5 Ref. | Motor Cover Motor Isolator Kit Shroud Wheel Description Motor Cover Motor Isolator Kit Shroud Wheel | 21DZ21 1AGF8 21DZ08 21DY94 21DW33 Part Num 16D537 21DZ23 4YU28 21DY93 21DW44 21DZ46 Part Num | 21DZ21 1AGF8 21DZ08 21DY94 21DP30 16D538 21DZ23 4YU23 21DY93 21DW44 21DZ46 16D546 | 21DZ21 21DW28 21DZ08 21DY94 21DW34 21DW34 21DZ23 41TL06 21DY93 21DW44 21DY09 | 21DZ21 4YU34 21DZ08 21DY94 21DY87 38AX31 21DZ24 41TL06 21DY93 21DW45 29PH76 | 21DZ23 4YU27 21DY93 21DW42 21DY91 38AX32 21DZ25 41TL07 21DY93 21DW16 21DW17 | 21DZ23 4YU28 21DY93 21DW43 21EC48 48C188 21DZ21 43Y135 21DZ08 21DZ94 | 1 1 1 1 1 1 1 1 1 1 |
| No. 1 2 3 4 5 Ref. No. 1 2 3 4 5 Ref. No. | Motor Cover Motor Isolator Kit Shroud Wheel Description Motor Cover Motor Isolator Kit Shroud Wheel Description | 16D531 21DZ21 1AGF8 21DZ08 21DY94 21DW33 Part Num 16D537 21DZ23 4YU28 21DY93 21DW44 21DZ46 Part Num 48C189 | 21DZ21 1AGF8 21DZ08 21DY94 21DP30 21DF30 21DZ23 4YU23 21DY93 21DW44 21DZ46 48C190 | 21DZ21 21DW28 21DZ08 21DY94 21DW34 21DW34 21DZ23 41TL06 21DY93 21DW44 21DY09 21DZ23 | 21DZ21 4YU34 21DZ08 21DY94 21DY87 38AX31 21DZ24 41TL06 21DY93 21DW45 29PH76 | 21DZ23 4YU27 21DY93 21DW42 21DY91 38AX32 21DZ25 41TL07 21DY93 21DW16 21DW17 | 21DZ23 4YU28 21DY93 21DW43 21EC48 48C188 21DZ21 43Y135 21DZ08 21DZ94 | 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| No. 1 2 3 4 5 Ref. No. 1 2 3 4 5 Ref. No. 1 | Motor Cover Motor Isolator Kit Shroud Wheel Description Motor Cover Motor Isolator Kit Shroud Wheel Description Motor Cover | 21DZ21 1AGF8 21DZ08 21DY94 21DW33 Part Num 16D537 21DZ23 4YU28 21DY93 21DW44 21DZ46 Part Num 48C189 21DZ21 | 21DZ21 1AGF8 21DZ08 21DY94 21DP30 21DZ23 4YU23 21DY93 21DW44 21DZ46 Aber for Mo 48C190 21DZ23 | 21DZ21 21DW28 21DZ08 21DY94 21DW34 21DW34 21DZ23 41TL06 21DY93 21DW44 21DY09 21DZ25 | 21DZ21 4YU34 21DZ08 21DY94 21DY87 38AX31 21DZ24 41TL06 21DY93 21DW45 29PH76 52CD42 21DZ23 | 21DZ23 4YU27 21DY93 21DW42 21DY91 38AX32 21DZ25 41TL07 21DY93 21DW16 21DW17 52CD43 21DZ24 | 21DZ23 4YU28 21DY93 21DW43 21EC48 48C188 21DZ21 43Y135 21DZ08 21DZ94 | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| No. 1 2 3 4 5 Ref. No. 1 2 3 4 5 Ref. No. 1 2 | Motor Cover Motor Isolator Kit Shroud Wheel Pescription Motor Cover Motor Isolator Kit Shroud Wheel Pescription Motor Cover Motor Motor Cover Motor Cover Motor Cover | 16D531 21DZ21 1AGF8 21DZ08 21DY94 21DW33 Part Num 16D537 21DZ23 4YU28 21DY93 21DW44 21DZ46 Part Num 48C189 21DZ21 43Y135 | 21DZ21 1AGF8 21DZ08 21DY94 21DP30 21DZ23 4YU23 21DZ23 4YU23 21DW44 21DZ46 21DZ46 21DZ23 43Y138 | 21DZ21 21DW28 21DZ08 21DY94 21DW34 21DZ23 41TL06 21DZ23 21DW44 21DY93 21DW44 21DY09 21DZ25 48C192 21DZ25 43Y139 | 21DZ21 4YU34 21DZ08 21DY94 21DY87 38AX31 21DZ24 41TL06 21DY93 21DW45 29PH76 52CD42 21DZ23 43Y137 | 21DZ23 4YU27 21DY93 21DW42 21DY91 38AX32 21DZ25 41TL07 21DY93 21DW16 21DW17 52CD43 21DZ24 43Y138 | 21DZ23 4YU28 21DY93 21DW43 21EC48 48C188 21DZ21 43Y135 21DZ08 21DZ94 | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| No. 1 2 3 4 5 Ref. No. 1 2 3 4 5 Ref. No. 2 3 | Motor Cover Motor Isolator Kit Shroud Wheel Description Motor Cover Motor Isolator Kit Shroud Wheel Description Motor Cover Motor Isolator Kit Shroud Wheel | 16D531 21DZ21 1AGF8 21DZ08 21DY94 21DW33 Part Num 16D537 21DZ23 4YU28 21DY93 21DW44 21DZ46 Part Num 48C189 21DZ21 43Y135 21DZ08 | 21DZ21 1AGF8 21DZ08 21DY94 21DP30 21DZ23 4YU23 21DZ23 21DW44 21DZ46 21DZ46 21DZ23 43Y138 21DY93 | 21DZ21 21DW28 21DZ08 21DY94 21DW34 21DZ33 41TL06 21DZ23 21DZ23 21DW44 21DY09 21DZ25 48C192 21DZ25 43Y139 21DY93 | 21DZ21 4YU34 21DZ08 21DY94 21DY87 38AX31 21DZ24 41TL06 21DY93 21DW45 29PH76 52CD42 21DZ23 43Y137 21DY93 | 21DZ23 4YU27 21DY93 21DW42 21DY91 38AX32 21DZ25 41TL07 21DY93 21DW16 21DW17 52CD43 21DZ24 43Y138 21DY93 | 21DZ23 4YU28 21DY93 21DW43 21EC48 48C188 21DZ21 43Y135 21DZ08 21DZ94 | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| No. 1 2 3 4 5 Ref. No. 1 2 3 4 5 Ref. No. 1 2 | Motor Cover Motor Isolator Kit Shroud Wheel Pescription Motor Cover Motor Isolator Kit Shroud Wheel Pescription Motor Cover Motor Motor Cover Motor Cover Motor Cover | 16D531 21DZ21 1AGF8 21DZ08 21DY94 21DW33 Part Num 16D537 21DZ23 4YU28 21DY93 21DW44 21DZ46 Part Num 48C189 21DZ21 43Y135 | 21DZ21 1AGF8 21DZ08 21DY94 21DP30 21DZ23 4YU23 21DZ23 4YU23 21DW44 21DZ46 21DZ46 21DZ23 43Y138 | 21DZ21 21DW28 21DZ08 21DY94 21DW34 21DZ23 41TL06 21DZ23 21DW44 21DY93 21DW44 21DY09 21DZ25 48C192 21DZ25 43Y139 | 21DZ21 4YU34 21DZ08 21DY94 21DY87 38AX31 21DZ24 41TL06 21DY93 21DW45 29PH76 52CD42 21DZ23 43Y137 | 21DZ23 4YU27 21DY93 21DW42 21DY91 38AX32 21DZ25 41TL07 21DY93 21DW16 21DW17 52CD43 21DZ24 43Y138 | 21DZ23 4YU28 21DY93 21DW43 21EC48 48C188 21DZ21 43Y135 21DZ08 21DZ94 | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |

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