Operating Instructions & Parts Manual



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, 465517 48C188 - 48C190 and 48C192

EN

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 WARNING qualified 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)
- Clean-Out Port Kit (3ATV9)
- 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.

GETTING STARTED

SPECIFICATIONS

SAFETY /



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.



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 followina:

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 1. electrical power source conforms to requirements of equipment and local codes.
- 2. 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 3. 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 5. objects, oil, grease, hot surfaces or chemicals. Replace damaged cords immediately.
- Never open access door to a duct with the ventilator running. 6.

SPECIFICATIONS

| Max. Inlet Temp. | 130°F |
|---|--|
| Mounting Location | Roof |
| Housing Material | Spun Aluminum |
| Wheel Type | Aluminum, Backward Inclined Centrifugal |
| Includes | NEMA 1 Junction Box, \blacktriangle , Δ |
| Agency Compliance | UL/cUL 705, AMCA Sound and Air |
| ▲ Ventilators 2RB53, 4YC64, 3-speed motors | 4YC65, 4YC67 5DVR5–5DVR8, 16D527–16D534 feature |

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

MAINTENANCE REPAIR



Dimensions (inches)

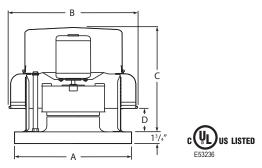


Figure 1

| | 16D527 16D528 16D529 16D530 | 4YC64G 4YC65G 5DVR5 5DVR6 | 16D531 16D532 16D533 | 48C188 48C189 | 2RB53 5DVR7 5DVR8 | 16D534 |
|-----------------------------------|--------------------------------------|------------------------------------|----------------------------|------------------|-------------------------|--------|
| А | 17 | 19 | 17 | 17 | 19 | 17 |
| В | 19-3/8 | 19-3/8 | 21-3/4 | 21-3/4 | 21-3/4 | 21-3/4 |
| С | 12-1/8 | 12-1/8 | 14-5/8 | 14-5/8 | 14-5/8 | 14-5/8 |
| D | 3 | 3 | 4 | 4 | 4 | 4 |
| Wheel Dia. | 8-1/4 | 8-1/4 | 8-1/4 | 8-1/4 | 8-1/4 | 10-1/2 |
| Shaft Dia. | 5/16 | 5/16 | 1/2 | 1/2 | 1/2 | 1/2 |
| Recommended Roof Opening (Sq.) | 12 | 14-1/2 | 12 | 12 | 14-1/2 | 12 |
| Recommended Damper Size (Sq.) | 9-1/2 | — | 9-1/2 | 9-1/2 | — | 9-1/2 |
| Recommended Speed Control | 48C172 | 48C172 | 48C172 | 43Y140 | 48C172 | 48C172 |

| | 4YC66G 4YC67G | 16D535 | 5DVR9 5DVT0 6KWK4 6KWK5 6KWK6 | 5DVT2A | 16D536 | 4үс68н 4үс69н |
|-----------------------------------|------------------|--------|---|--------|--------|------------------|
| A | 19 | 19 | 22 | 22 | 19 | 22 |
| В | 21-3/4 | 24-3/8 | 24-3/8 | 24-3/8 | 24-3/8 | 24-3/8 |
| С | 14-5/8 | 23-3/4 | 23-3/4 | 23-3/4 | 23-3/4 | 23-3/4 |
| D | 4 | 4-3/8 | 4-3/8 | 4-3/8 | 4-3/8 | 4-3/8 |
| Wheel Dia. | 10-1/2 | 11 | 11 | 11 | 13-1/4 | 13-1/4 |
| Shaft Dia. | 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 |
| Recommended Damper Size (Sq.) | 12 | 12 | 15 | 15 | 12 | 15 |
| Recommended Speed Control | 48C172 | 48C172 | 48C172 | 43Y140 | 48C172 | 48C172 |

SAFETY / SPECIFICATIONS

ASSEMBLY / INSTALLATION

OPERATION

TROUBLESHOOTING

Dayton

Dimensions (inches) Continued

| | | | | 38AX30 | | |
|-----------------------------------|--------|------------------------|--------|--------|------------------------|--------|
| | 5DVT3A | 16D537 | 16D538 | 48C190 | 4YC71H | 5DVT1 |
| A | 22 | 19 | 19 | 19 | 22 | 22 |
| В | 24-3/8 | 28-3/8 | 28-3/8 | 28-3/8 | 28-3/8 | 28-3/8 |
| С | 23-3/4 | 23-3/4 | 23-3/4 | 23-3/4 | 23-3/4 | 23-3/4 |
| D | 4-3/8 | 4 | 4 | 4 | 4 | 4 |
| Wheel Dia. | 13-1/4 | 13-3/4 | 13-3/4 | 13-3/4 | 13-3/4 | 13-3/4 |
| Shaft Dia. | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 |
| Recommended Roof Opening (Sq.) | 17-1/2 | 14-1/2 | 14-1/2 | 14-1/2 | 17-1/2 | 17-1/2 |
| Recommended Damper Size (Sq.) | 15 | 12 | 12 | 12 | 15 | 15 |
| Recommended Speed Control | 43Y140 | 48C173 at 115V only | 48C172 | 43Y140 | 48C173 at 115V only | 48C172 |

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 |
| | | 100100 | 1/0 | 1550 | 0.06 | 7.4 |
| _ | _ | | | 1140 | 0.03 | 4.5 |
| — | _ | | | 1725 | 0.09 | 9.3 |



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.

AMCA

| | 5DVT4A 38AX31 | 4ҮС72Н 4ҮС73Н | 4YC76J | 38AX32 48C192 | 4YC77J | 6KWK7A |
|-----------------------------------|------------------|------------------|--------|------------------|------------------------|--------|
| A | 26 | 26 | 30 | 30 | 30 | 30 |
| В | 28-3/8 | 28-3/8 | 35-1/2 | 35-1/2 | 35-1/2 | 35-1/2 |
| С | 23-3/4 | 23-3/4 | 28 | 28 | 28 | 28 |
| D | 4 | 4 | 5-1/2 | 5-1/2 | 5-1/2 | 5-1/2 |
| Wheel Dia. | 14-3/4 | 16-3/4 | 18-1/2 | 18-1/2 | 18-1/2 | 18-1/2 |
| Shaft Dia. | 1/2 | 1/2 | 5/8 | 5/8 | 1/2 | 5/8 |
| Recommended Roof Opening (Sq.) | 21-1/2 | 21-1/2 | 25-1/2 | 25-1/2 | 25-1/2 | 25-1/2 |
| Recommended Damper Size (Sq.) | 19 | 19 | 23 | 23 | 23 | 23 |
| Recommended Speed Control | 43Y140 | 48C172 | 48C172 | 43Y140 | 48C173 at 115V only | _ |

| .000" | .125" | CFM A .250" | ir Delivery .375" | y @ Static .500" | Pressure .750" | Shown .875" | 1.00" | 1.25" |
|---------|-------|----------------|----------------------|---------------------|-------------------|----------------|-------|-------|
| 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 | _ | — | — |

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.

TROUBLESHOOTING

Dayton

PERFORMANCE CONTINUED

| ≤ | | | | | | | |
|----------------------------|------------------------|------|------------------------------|-----|------|------------|-----------------------------|
| GETTIN | Model 115V, 1-Phase | НР | Model – ECM 115V, 1-Phase | НР | RPM | Max BHP | Sones @ .250" SP @ 5 Ft. |
| U | _ | — | | | 860 | 0.01 | _ |
| | | | | | 1050 | 0.02 | 4.2 |
| S | 5DVR8, 16D533 | 1/15 | 48C189 | 1/6 | 1300 | 0.05 | 5.5 |
| / NNS | | | 400109 | 1/0 | 1550 | 0.08 | 7.4 |
| ΣT | — | — | | | 1140 | 0.03 | 4.6 |
| SAFETY ECIFICATI | _ | — | | | 1725 | 0.11 | 9.4 |
| SA | 4YC66G | 1/8 | — | — | 1050 | 0.04 | 4.5 |
| SPE | | | | | 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 |
| NO | 6KWK5 | 1/6 | — | — | 1140 | 0.06 | 6.1 |
| ASSEMBLY NSTALLATIC | 6KWK6 | 1/4 | — | — | 1725 | 0.19 | 12.3 |
| LL ME | _ | — | | | 860 | 0.04 | 2.9 |
| SSE | 5DVR9 | 1/6 | 5DVT2A | 1/4 | 1140 | 0.09 | 5.7 |
| ASSEMBLY / INSTALLATION | 5DVT0, 16D535 | 1/4 | | | 1725 | 0.29 | 11.4 |
| | 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 |
| NO | 5DVT1, 16D538 | 1/6 | 48C190, 38AX30‡ | 3/4 | 1140 | 0.17 | 9.6 |
| OPERATION | 4YC71H*, 16D537* | 1/2 | | | 1725 | 0.60 | 16.7 |
| ER | — | — | | | 1050 | 0.24 | 9.0 |
| РО | _ | — | 5DVT4A, 38AX31‡ | 3/4 | 1300 | 0.46 | 12.9 |
| | — | — | | | 1550 | 0.79 | 17.4 |
| | 4YC72H | 1/3 | — | — | 1140 | 0.30 | 10.4 |
| (5) | 4YC73H | 1/4 | — | — | 860 | 0.26 | 9.6 |
| N | _ | - | | | 730 | 0.26 | 7.2 |
| OT | — | — | 48C192, 38AX32‡ | 1 | 810 | 0.35 | 8.7 |
| 오 | 4YC76J | 1/3 | 400102,0070024 | | 860 | 0.42 | 9.8 |
| ES | — | — | | | 900 | 0.48 | 10.9 |
| UBLESHOOTING | 4YC77J*, 6KWK7A† | 3/4 | | — | 1140 | 0.98 | 16.8 |
| | | | | | | | |

* 115/230V, 1-Phase

‡ 208-230V, 1-Phase

† 208-230/460V, 3-Phase

| | | | | | | | | | 2 |
|-----------|--------------|----------------|----------------------|-------------------|-------------------|----------------|------------|-----------|----------------|
| .000" | .125" | CFM A .250" | ir Delivery .375" | © Static .500" | Pressure .750" | Shown .875" | 1.00" | 1.25" | Î |
| 426 | 298 | _ | _ | _ | _ | — | _ | _ | , |
| 520 | 420 | 293 | _ | | _ | _ | _ | _ | |
| 644 | 565 | 478 | 373 | _ | _ | _ | _ | _ | S |
| 768 | 701 | 633 | 557 | 473 | _ | _ | _ | _ | P |
| 565 | 474 | 367 | — | — | — | — | — | _ | |
| 855 | 794 | 735 | 671 | 600 | 406 | _ | _ | _ | |
| 717 | 570 | 389 | _ | _ | _ | _ | _ | _ | SPECIFICATIONS |
| 717 | 570 | 389 | _ | | _ | _ | _ | _ | |
| 888 | 780 | 640 | 493 | 184 | | _ | _ | _ | 0, |
| 1059 | 969 | 863 | 745 | 623 | | _ | _ | _ | |
| 431 | 358 | 261 | — | | | — | — | _ | |
| 571 | 517 | 460 | 396 | 283 | | | _ | _ | Z |
| 864 | 829 | 793 | 756 | 719 | 640 | 592 | 527 | _ | ST/ |
| 729 | 623 | 473 | _ | | _ | _ | _ | _ | É |
| 966 | 883 | 805 | 702 | 507 | — | — | — | — | A |
| 1462 | 1405 | 1351 | 1298 | 1250 | 1126 | 1052 | 955 | — | INSTALLATION |
| 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 | — | — | — | — | 9 |
| 2448 | 2393 | 2338 | 2281 | 2220 | 2089 | 2018 | 1935 | 1746 | Ę |
| 1948 | 1833 | 1719 | 1590 | 1418 | — | — | — | — | |
| 2412 | 2318 | 2228 | 2135 | 2033 | 1777 | 1611 | 1355 | — | 9 |
| 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 | — | — | — | — | ġ |
| 3344 | 3202 | 3049 | 2863 | 2647 | 2015 | — | — | — | ļ |
| 3500 | 3364 | 3219 | 3052 | 2858 | 2347 | 1821 | _ | _ | ģ |
| 4433 | 4329 | 4216 | 4102 | 3980 | 3684 | 3515 | 3328 | 2856 | 2 |
| Performan | nce certifie | d is for ins | tallation tv | ne A· Free | inlet Free | outlet Pr | erformance | - ratings | - |

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.



INSTALLATION INSTRUCTIONS

A WARNING

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

qualified personnel.

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

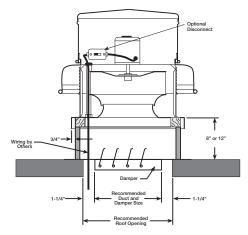


Figure 2

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.
- 2. Install optional backdraft damper. Secure damper flange to curb damper tray.
- 3. Remove motor compartment cover by removing fasteners. Place cover on a flat surface in an area protected from strong winds.
- 4. 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.
- 6. Verify power line wiring is de-energized before connecting ventilator motor to power source.
- 7. Check the power source for compatibility with the requirements of your equipment.

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

MAINTENANCE

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.
- 9. Connect power supply wiring to the motor as indicating on the motor nameplate, refer to Figure 3 for connection wiring diagram.

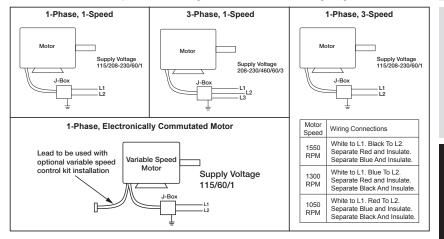
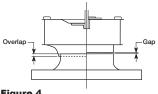


Figure 3

- Mount and wire safety disconnect switch under motor cover. Wire control switches at ground level, refer to switch manufacturer for installation and wiring procedures.
- 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 4 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.



| | - | Figure 4 | |
|------------------|------|--|--|
| | | 48C190, 4YC68H, 4YC69H, 4YC71H, 4YC72H, 4YC73H, 5DVR9, 5DVT0, 5DVT1, 5DVT2A, 5DVT3A, 5DVT4A, 6KWK4, 6KWK5, 6KWK6, 16D535, 16D536, 16D537, 16D538, 38AX30, 38AX31 | 4YC77J, 4YC76J, 6KWK7A, 38AX32, 48C192 |
| Overlap (inches) | - | 1/4 | 3/8 |
| Gap (inches) | 3/32 | - | - |
| 10 | | | |

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

GETTING STARTED

SAFETY / SPECIFICATIONS

ASSEMBLY /



OPERATION

- 1. 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.
- 2. 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.

- When the ventilator is started, observe the operation and check for any 3. 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 5. obstruction.
- 6 Electronically commutated motors can be controlled two ways:



Figure 5

- A motor mounted potentiometer is mounted on the case of the a. motor to adjust the speed manually. See Figure 5. Turn the potentiometer using a screwdriver to adjust the speed.
- The motor includes a capped motor lead that can be connected b. 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



35YV94



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.
 - 30 Minute Interval Inspect bolts, setscrews and motor mounting a. bolts. Adjust and tighten as necessary.
 - b. 24 Hour Interval – Check all internal components.

10

MAINTENANCE



SAFETY /

TROUBLESHOOTING GUIDE

| | | | 0. |
|----------------------|---|--|--------------|
| Symptom | Possible Cause(s) | Corrective Action | Þ |
| Ventilator | 1. Blown fuse or breaker | 1. Replace or repair | STARTED |
| inoperative | 2. Defective motor | 2. Replace or repair | 0 |
| | 3. Incorrectly wired | Shut power OFF and check wiring for proper connections | |
| Excessive noise | 1. Loose wheel | 1. Tighten set screws | SPE |
| or vibration | Accumulation of material on wheel | 2. Clean | ECIFICATIONS |
| | Ventilator base not securely anchored | 3. Secure properly | ATIO |
| | 4. Motor cover loose and rattling | Tighten acorn nuts securing motor cover | SN |
| | 5. Fan wheel out of balance | 5. Replace wheel | |
| Insufficient airflow | 1. Blocked duct or clogged filters | 1. Clean or replace | |
| | 2. Damper closed | 2. Inspect/repair | SNI |
| | 3. Incorrect wheel rotation | 3. Check motor wiring | TAI |
| | Loose fitting duct sections permitting air loss | Check for secure connection where duct sections are joined (suggest duct tape at seams for sealed closure) | NSTALLATION |
| Motor overloads | 1. Shorted motor winding | 1. Replace motor | |
| or overheats | 2. Incorrect wheel rotation | 2. Check motor wiring | |
| | 3. Over/Under line voltage | 3. Contact Power Company | _ |
| | | | C |

MAINTENANCE

A WARNING

A CAUTION

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.

- 1. 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 2. 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.

SAFETY / SPECIFICATIONS

ASSEMBLY / NSTALLATION

OPERATION

Dayton

REPAIR PARTS ILLUSTRATION FOR CENTRIFUGAL DIRECT-DRIVE DOWNBLAST EXHAUST VENTILATORS



Hood Clips 29PH78

REPAIR PARTS LIST FOR CENTRIFUGAL DIRECT-DRIVE DOWNBLAST EXHAUST VENTILATORS

| Ref. No. | Description | Part Num 2RB53 | ber for Moc 4YC64G | lels: 4YC65G | 4YC66G | 4YC67G | Qty. |
|-------------|--------------|--------------------|-----------------------|-----------------|--------|--------|------|
| 1 | Motor Cover | 21DZ21 | 21DZ19 | 21DZ19 | 21DZ21 | 21DZ21 | 1 |
| 2 | Motor | 1AGF8 | 4YU32 | 4YU33 | 4YU34 | 4YU34 | 1 |
| 3 | Isolator Kit | 21DZ08 | 21DZ08 | 21DZ08 | 21DZ08 | 21DZ08 | 1 |
| 4 | Shroud | 21DY94 | 21DZ20 | 21DZ20 | 21DY94 | 21DY94 | 1 |
| 5 | Wheel | 21DP30 | 21DY85 | 21DY86 | 21DY87 | 21DY87 | 1 |
| Ref. No. | Description | Part Num 4YC68H | ber for Moc 4YC69H | lels: 4YC71H | 4YC72H | 4үс73н | Qty. |
| 1 | Motor Cover | 21DZ23 | 21DZ23 | 21DZ23 | 21DZ24 | 21DZ24 | 1 |
| 2 | Motor | 4YU19 | 4YU28 | 4YU28 | 6TWL4 | 4YU20 | 1 |
| 3 | Isolator Kit | 21DY93 | 21DY93 | 21DY93 | 21DY93 | 21DY93 | 1 |
| 4 | Shroud | 21DW43 | 21DW43 | 21DW44 | 21DW47 | 21DW46 | 1 |
| 5 | Wheel | 21EC48 | 21EC48 | 21DZ46 | 21DW36 | 21DZ44 | 1 |
| Ref. No. | Description | Part Num 4YC76J | ber for Moc 4YC77J | lels: 5DVR5 | 5DVR6 | 5DVR7 | Qty. |
| 1 | Motor Cover | 21DZ25 | 21DZ25 | 21DZ19 | 21DZ19 | 21DZ21 | 1 |
| 2 | Motor | 4YU21 | 4YY55 | 21DW27 | 4YU32 | 1AGF8 | 1 |
| 3 | Isolator Kit | 21DY93 | 21DY93 | 21DZ08 | 21DZ08 | 21DZ08 | 1 |
| 4 | Shroud | 21DW16 | 21DW16 | 21DZ20 | 21DZ20 | 21DY94 | 1 |
| 5 | Wheel | 21DW17 | 21DZ54 | 21DW32 | 21DY84 | 21DW33 | 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

TROUBLESHOOTING

| | | Dorf Num | ber for Mod | | | Dayl | ton° | GETTING STARTED |
|--|--|--|--|---|--|--|---------------------------------|----------------------------|
| Ref. No. | Description | 5DVR8 | 5DVR9 | 5DVT0 | 5DVT1 | 5DVT2A | Qty. | ST/ |
| 1 | Motor Cover | 21DZ21 | 21DZ23 | 21DZ23 | 21DZ23 | 21DZ23 | 1 | ARTED |
| 2 | Motor | 21DW28 | 4YU23 | 4YU27 | 4YU23 | 43Y136 | 1 | |
| 3 | Isolator Kit | 21DZ08 | 21DY93 | 21DY93 | 21DY93 | 21DY93 | 1 | |
| 4 | Shroud | 21DY94 | 21DW42 | 21DW42 | 21DW44 | 21DW42 | 1 | S |
| 5 | Wheel | 21DW34 | 21DY91 | 21DY91 | 21DZ46 | 21DY91 | 1 | |
| Ref. | | Part Num | ber for Mod | lels: | | | | P |
| No. | Description | 5DVT3A | 5DVT4A | 6KWK4 | 6KWK5 | 6KWK6 | Qty. | SAFETY / SPECIFICATIONS |
| 1 | Motor Cover | 21DZ23 | 21DZ24 | 21DZ23 | 21DZ23 | 21DZ23 | 1 | |
| 2 | Motor | 43Y137 | 43Y138 | 4YU19 | 4YU23 | 4YU27 | 1 | |
| 3 | Isolator Kit | 21DY93 | 21DY93 | 21DY93 | 21DY93 | 21DY93 | 1 | |
| 4 | Shroud | 21DW43 | 21DW45 | 53F572 | 21DW43 | 21DW43 | 1 | |
| 5 | Wheel | 21EC48 | 29PH76 | 21DV75 | 21DV75 | 21DV75 | 1 | |
| Ref. | | | ber for Mod | | | | | |
| No. | Description | 6KWK7A | 16D527 | 16D528 | 16D529 | 16D530 | Qty. | ASSEMBLY / INSTALLATION |
| 1 | Motor Cover | 21EA28 | 21DZ19 | 21DZ19 | 21DZ19 | 21DZ19 | 1 | |
| 2 | Motor | 21DV61 | 21DW27 | 4YU32 | 4YU32 | 4YU33 | 1 | |
| 3 | Isolator Kit | 21EA25 | 21DZ08 | 21DZ08 | 21DZ08 | 21DZ08 | 1 | |
| 4 | Shroud | 21DW16 | 21DZ20 | 21DZ20 | 21DZ20 | 21DZ20 | 1 | |
| 5 | Wheel | 21DW17 | 21DW32 | 21DY84 | 21DY85 | 21DY86 | 1 | |
| Ref. | | | ber for Mod | | | | | |
| No. | Description | 16D531 | 16D532 | 16D533 | 16D534 | 16D535 | Qty. | |
| 1 | Motor Cover | 21DZ21 | 21DZ21 | 21DZ21 | 21DZ21 | 21DZ23 | 1 | OPERATION |
| 2 | Motor | 1AGF8 | 1AGF8 | 21DW28 | 4YU34 | 4YU27 | 1 | |
| 3 | Isolator Kit | 21DZ08 | 21DZ08 | 21DZ08 | 21DZ08 | 21DY93 | 1 | |
| 4 | Shroud | 21DY94 | 21DY94 | 21DY94 | 21DY94 | 21DW42 | 1 | |
| 5 | Wheel | 21DW33 | 21DP30 | 21DW34 | 21DY87 | 21DY91 | 1 | |
| Ref. No. | Description | Part Num 16D536 | ber for Mod 16D537 | lels: 16D538 | 38AX30 | 38AX31 | Qty. | |
| 1 | Motor Cover | 21DZ23 | 21DZ23 | 21DZ23 | 21DZ23 | 21DZ24 | 1 | |
| 2 | | | | | | | 1 | |
| | Motor | 4YU28 | 4YU28 | 4YU23 | 41TL06 | 41TL06 | 1 | |
| 3 | Motor Isolator Kit | 4YU28 21DY93 | | 4YU23 21DY93 | 41TL06 21DY93 | 41TL06 21DY93 | 1 | ᅻ |
| 3 4 | | | 4YU28 | | | | - | TROL |
| | Isolator Kit | 21DY93 | 4YU28 21DY93 | 21DY93 | 21DY93 | 21DY93 | 1 | TROUBL |
| 4 | Isolator Kit Shroud Wheel | 21DY93 21DW43 21EC48 | 4YU28 21DY93 21DW44 | 21DY93 21DW44 21DZ46 | 21DY93 21DW44 | 21DY93 21DW45 | 1 | TROUBLESHO |
| 4 5 Ref. | Isolator Kit Shroud Wheel | 21DY93 21DW43 21EC48 Part Num | 4YU28 21DY93 21DW44 21DZ46 ber for Mod | 21DY93 21DW44 21DZ46 | 21DY93 21DW44 21DY09 | 21DY93 21DW45 29PH76 | 1 1 1 | TROUBLESHOOT |
| 4 5 Ref. No. | Isolator Kit Shroud Wheel Description | 21DY93 21DW43 21EC48 Part Num 38AX32 | 4YU28 21DY93 21DW44 21DZ46 ber for Mod 48C188 | 21DY93 21DW44 21DZ46 lels: 48C189 | 21DY93 21DW44 21DY09 48C190 | 21DY93 21DW45 29PH76 48C192 | 1 1 1 Qty. | TROUBLESHOOTIN |
| 4 5 Ref. No. | Isolator Kit Shroud Wheel Description Motor Cover | 21DY93 21DW43 21EC48 Part Num 38AX32 21DZ25 | 4YU28 21DY93 21DW44 21DZ46 ber for Mod 48C188 21DZ21 | 21DY93 21DW44 21DZ46 els: 48C189 21DZ21 | 21DY93 21DW44 21DY09 48C190 21DZ23 | 21DY93 21DW45 29PH76 48C192 21DZ25 | 1 1 1 Qty. | TROUBLESHOOTING |
| 4 5 Ref. No. 1 2 | Isolator Kit Shroud Wheel Description Motor Cover Motor | 21DY93 21DW43 21EC48 Part Num 38AX32 21DZ25 41TL07 | 4YU28 21DY93 21DW44 21DZ46 ber for Mod 48C188 21DZ21 43Y135 | 21DY93 21DW44 21DZ46 48C189 21DZ21 43Y135 | 21DY93 21DW44 21DY09 48C190 21DZ23 43Y138 | 21DY93 21DW45 29PH76 48C192 21DZ25 43Y139 | 1 1 1 Qty. 1 | TROUBLESHOOTING |

13

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