Dayton®

Direct-Drive In-Line Duct Blower

Models: 852H80 thru 852H91

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: _____

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Dayton®

BEFORE YOU BEGIN

⚠ WARNING ***Installation, troubleshooting and parts replacement are to be performed only by qualified personnel.***

Electrical Requirements:

- The motor amperage and voltage rating must be checked for compatibility with the electrical supply prior to final electrical connection. Supply wiring to the fan must be properly fused, and conform to local and national electrical codes.

Tools Needed:

- Impact Driver
- 1/2 in. Nut Driver
- Multimeter
- Lock-Out Tag-Out
- Hex Keys/Wrench

UNPACKING

Contents:

- Dayton® Direct-Drive In-Line Duct Blower (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 blower 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

Square in-line duct blowers are direct-driven with mixed flow wheels and feature rigid construction, high-efficiency and low sound levels. These blowers are the ideal selection for indoor clean air applications including intake, exhaust, return, or make-up air systems. The square housing design, compact size, and straight-thru airflow provides the system designer the flexibility to mount in horizontal and vertical orientations. All blowers come standard with an external speed control dial to adjust to desired air flow. Each fan displays a permanently stamped metal nameplate with complete model and unique serial number for future identification.

⚠ DANGER ***Do not depend on any switch as the sole means 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 while motor is connected to power source.***

⚠ WARNING ***Do not use this equipment in explosive atmospheres!***

1. Read and follow all instructions and cautionary markings. Make sure electrical power source conforms to requirements of equipment and local codes.
2. Blowers should be assembled, installed and serviced by a qualified technician. Have all electrical work performed by a qualified electrician.
3. Follow all local electrical and safety codes in the United States and Canada, as well as the National Electrical Code (NEC), the Occupational Safety and Health Act (OSHA), and the National Fire Protection Association (NFPA) Bulletin 96 in the United States. Ground motor in accordance with NEC Article 250 (grounding). Follow the Canadian Electric Code (CEC) in Canada.

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

OSHA requires OSHA complying guards when blower is installed within 2.1 meters (7 feet) of floor or working level.

UL/cUL Standards require OSHA complying guards when blower is installed within 2.5 meters (8 feet) of floor or working level.

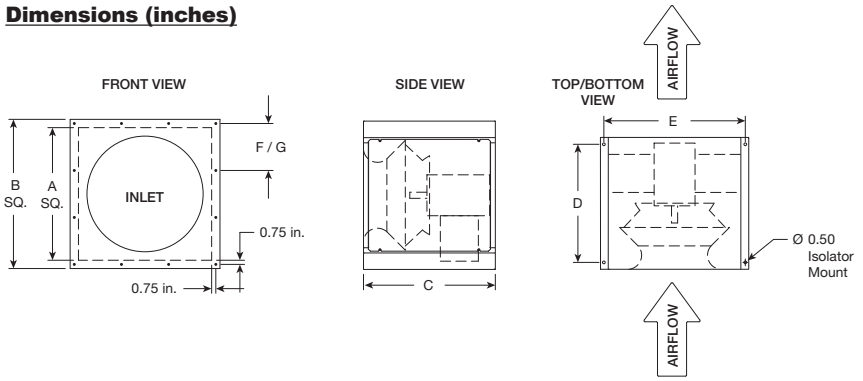
4. Motor must be securely and adequately grounded. Accomplish this by wiring with a grounded, metal-clad raceway system by using a separate ground wire connected to the bare metal of the motor frame, or other suitable means.
5. Do not kink power cable or allow it to come in contact with sharp objects, oil, grease, hot surfaces or chemicals. Replace damaged cords immediately.
6. Never open access door to a duct with the ventilator running.

SPECIFICATIONS

c UL us LISTED E53236

Speeds	300 RPM up to Max Catalog RPM. Reference Performance Pages 4-7
Recommended Speed Control	Dial on fan or 0-10VDC Control
Max. Inlet Temp.	130° F
Housing Material	Galvanized
Wheel Type	Mixed Flow
Mounting Location	Indoor
Mounting Position	Vertical/Horizontal
Disconnect Switch	NEMA 1 Disconnect
Agency Compliance	UL/cUL 705, AMCA Sound & Air Performance FEI
Electronically Commutated Fan Motor	Include external dial on fan to adjust speed. Optional remote mount speed control kits 43Y140, 35YV92 and 35YV94 can be purchased separately.

Dimensions (inches)



Model	Wheel Diameter	A Sq.	B Sq.	C	D (Mount Length)	E (Mount Width)	F (Hole Spacing)	G (Holes Per Side)	Actual Weight
852H81 / 852H80	9	11-3/8	14-3/8	14-1/2	12	13-1/8	6-1/2	3	45 / 33
852H83 / 852H82	12-1/4	15-1/8	18-1/8	16-1/2	14	16-7/8	8-1/4	3	70 / 40
852H85	15	18-1/4	21-1/4	20	17-1/2	20	9-7/8	3	79
852H84	18-1/4	22	25	24-1/2	22	23-3/4	11-3/4	3	84
852H87 / 852H86	20	24	27	25-1/2	23	25-3/4	8-1/2	4	133 / 100
852H89 / 852H88	22-1/4	26-5/8	29-5/8	26-5/8	24-1/8	28-3/8	9-3/8	4	202 / 165
852H90	27	32	35	32	29-1/2	33-3/4	11-1/4	4	271
852H91	30	35-1/2	38-1/2	35-1/2	33	37-1/4	9-1/4	5	319

All dimensions in inches and weight is shown in pounds. Dimensions A and B are same for height and width.

PERFORMANCE

Wheel Diameter	Model	HP	EC Motor Volt/Phase/Hz	RPM	Max Operating HP		Air (CFM) and Sound (dBA) Performance @ Static Pressure Shown											
							0.00"	0.125"	0.25"	0.375"	0.50"	0.75"	1.00"	1.25"	1.50"	1.75"	2.00"	2.25"	2.50"	2.75"
9	852H81	0.5	115, 208-230, 277/1/60	3900	0.46	CFM	1322	1298	1275	1251	1226	1173	1112	1045	973	885	776	630	-	-
						dBA	76	76	75	75	74	74	72	71	70	69	68	66	-	-
				3200	0.26	CFM	1082	1054	1026	995	962	886	799	688	527	-	-	-	-	-
						dBA	72	71	71	70	70	68	66	64	61	-	-	-	-	-
				2500	0.12	CFM	841	807	768	722	670	545	-	-	-	-	-	-	-	-
						dBA	69	67	66	65	63	59	-	-	-	-	-	-	-	-
	852H80	1/15	115, 208-230V/1/60	1750	0.04	CFM	584	532	460	371	-	-	-	-	-	-	-	-	-	-
						dBA	63	60	57	53	-	-	-	-	-	-	-	-	-	-
				1000	0.01	CFM	326	203	-	-	-	-	-	-	-	-	-	-	-	-
						dBA	45	39	-	-	-	-	-	-	-	-	-	-	-	-
				600	<0.01	CFM	193	-	-	-	-	-	-	-	-	-	-	-	-	-
						dBA	40	-	-	-	-	-	-	-	-	-	-	-	-	-
12-1/4	852H83	1	115, 208-230, 277V/1/60	2625	0.69	CFM	2346	2302	2259	2215	2162	2051	1915	1736	1555	1326	-	-	-	-
						dBA	74	73	72	71	71	70	69	67	66	65	-	-	-	-
	852H82	1/4	115, 208-230, 277V/1/60	1750	0.2	CFM	1506	1443	1372	1287	1180	901	-	-	-	-	-	-	-	-
						dBA	68	66	64	63	61	58	-	-	-	-	-	-	-	-
				1000	0.04	CFM	836	698	492	-	-	-	-	-	-	-	-	-	-	-
						dBA	56	52	47	-	-	-	-	-	-	-	-	-	-	-
				600	0.01	CFM	496	-	-	-	-	-	-	-	-	-	-	-	-	-
						dBA	41	-	-	-	-	-	-	-	-	-	-	-	-	-
15	852H85	1	115, 208-230, 277V/1/60	1775	0.44	CFM	2475	2395	2313	2225	2130	1915	1638	1250	-	-	-	-	-	-
						dBA	69	68	68	67	67	65	64	63	-	-	-	-	-	-
				1000	0.08	CFM	1380	1227	1039	772	-	-	-	-	-	-	-	-	-	-
						dBA	54	52	50	48	-	-	-	-	-	-	-	-	-	-
				600	0.02	CFM	820	509	-	-	-	-	-	-	-	-	-	-	-	-
						dBA	41	35	-	-	-	-	-	-	-	-	-	-	-	-
18-1/4	852H84	1	115, 208-230, 277V/1/60	1535	0.79	CFM	3929	3831	3727	3605	3485	3203	2844	2410	-	-	-	-	-	-
						dBA	67	66	66	65	65	64	64	64	-	-	-	-	-	-
				1000	0.22	CFM	2547	2375	2163	1922	1623	-	-	-	-	-	-	-	-	-
						dBA	58	57	56	55	55	-	-	-	-	-	-	-	-	-
				600	0.05	CFM	1480	1164	-	-	-	-	-	-	-	-	-	-	-	-
						dBA	48	45	-	-	-	-	-	-	-	-	-	-	-	-

Dayton Electric Mfg. Co. certifies that the blowers 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.

Performance certified is for installation type B: Free inlet, Ducted outlet. Power rating (bhp) does not include transmission losses. The sound power level ratings are shown in decibels, referred to 10-12 watts, calculated per AMCA Standard 301. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA type B: Free inlet, Ducted outlet. Ratings for inlet sound do not include the effects of duct end correction. The AMCA Certified Ratings Seal for Sound applies to inlet LwiA ratings only.

PERFORMANCE (CONTINUED)

Wheel Diameter	Model	HP	EC Motor Volt/Phase/Hz	RPM	Max Operating HP		Air (CFM) and Sound (dBA) Performance @ Static Pressure Shown												
							0.00"	0.125"	0.25"	0.375"	0.50"	0.75"	1.00"	1.25"	1.50"	1.75"	2.00"	2.25"	2.50"	2.75"
20	852H87	2	208-240V/1/60	1750	1.84	CFM	6070	5959	5851	5630	5630	5390	5113	4798	4439	4029	3556	2961	-	-
						dBA	72	72	71	70	70	69	69	68	68	68	69	69	-	-
				1500	1.16	CFM	5187	5062	4939	4658	4658	4340	3955	3480	2932	-	-	-	-	-
						dBA	69	68	67	66	66	65	65	65	66	-	-	-	-	-
	852H86	1	115, 208-230, 277V/1/60	1235	0.65	CFM	4225	4068	3905	3527	3527	3052	2433	-	-	-	-	-	-	-
						dBA	64	63	63	62	62	62	62	-	-	-	-	-	-	-
				860	0.21	CFM	2885	2653	2380	1587	1587	-	-	-	-	-	-	-	-	-
						dBA	60	58	57	54	54	-	-	-	-	-	-	-	-	-
				600	0.07	CFM	1985	1635	1070	-	-	-	-	-	-	-	-	-	-	-
						dBA	51	48	44	-	-	-	-	-	-	-	-	-	-	-
22-1/4	852H89	3	380-480V/3/60	1625	2.51	CFM	7765	7635	7503	7235	7235	6955	6635	6280	5870	5395	4860	4245	-	-
						dBA	73	73	73	71	71	71	70	70	69	70	70	70	-	-
	852H88	2	208-240V/1/60	1340	1.4	CFM	6380	6225	6068	5723	5723	5318	4840	4238	3540	-	-	-	-	-
						dBA	69	68	68	67	67	66	66	66	66	-	-	-	-	-
				1000	0.57	CFM	4680	4460	4225	3666	3666	2905	-	-	-	-	-	-	-	-
						dBA	65	62	62	61	61	61	-	-	-	-	-	-	-	-
				600	0.12	CFM	2745	2360	1825	-	-	-	-	-	-	-	-	-	-	-
						dBA	54	51	49	-	-	-	-	-	-	-	-	-	-	-
27	852H90	7 1/2	380-480V/3/60	1493	5.73	CFM	13325	13168	13014	12708	12708	12375	12023	11645	11210	10740	10200	9610	8980	8210
						dBA	81	81	80	80	80	80	79	79	79	78	78	77	77	77
				100	1.71	CFM	8885	8635	8398	7870	7870	7225	6350	5310	-	-	-	-	-	-
						dBA	69	68	68	67	67	66	66	66	-	-	-	-	-	-
				600	0.37	CFM	5275	4850	4360	-	-	-	-	-	-	-	-	-	-	-
						dBA	59	58	58	-	-	-	-	-	-	-	-	-	-	-
30	852H91	10	380-480V/3/60	1300	6.6	CFM	15693	15510	15330	14960	14960	14553	14120	13645	13112	12510	11828	11035	10155	-
						dBA	79	79	79	79	79	78	78	77	77	77	76	76	76	-
				1000	3.04	CFM	12090	11845	11600	11070	11070	10453	9733	8810	7660	-	-	-	-	-
						dBA	73	73	72	72	72	72	71	71	71	-	-	-	-	-
				600	0.65	CFM	7265	6830	6350	4870	4870	-	-	-	-	-	-	-	-	-
						dBA	63	63	64	64	64	-	-	-	-	-	-	-	-	-

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TYPICAL INSTALLATION

NOTE: For units with a Variable Frequency Drive (VFD), reference the VFD documentation for installation requirements, start-up settings, parameter adjustments and troubleshooting.

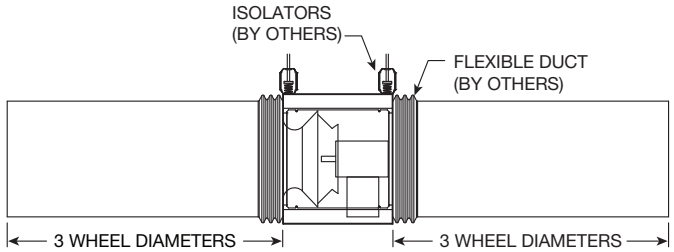
Follow NEC and local codes for VFD wiring and installation. If the wire length between the VFD and the controlled motor exceeds 100 ft (30.5 m), DV/DT filters or VFD cabling may be required. Calculations and proper application of DV/DT filters and VFD cabling is by others; failing to do so may result in premature motor failure.

Mounting Options

Mounting position allows fan to be installed for vertical or horizontal airflow. In addition, the fan can be rotated 90 degrees either direction (access doors on the bottom and top). Usings isolation is suggested when installing.

IMPORTANT: Flex duct is recommended for mounting to the inlet of the fan to allow for fitting adjustments. If the inlet cone (venturi) requires adjustment, it can be detached from the unit via the fasteners located on the inlet panel.

IMPORTANT: The inlet and outlet duct should have approximately three wheel diameters of straight duct before and after the fan to achieve cataloged performance.



PRE-STARTUP CHECKS

Before Blower Installation

Before starting up or operating fan, check all fasteners for tightness. In particular, check the cap screws in wheel bushing.

Wheel Alignment

1. Rotate the fan wheel by hand and ensure no parts are rubbing. The wheel should rotate freely and be aligned as shown in Figure 1. Wheel position is preset and the unit is tested at the factory.
2. Movement may occur during shipment, and realignment may be necessary.

   Radial Gap - If necessary, adjust inlet cone position such that the radial gap between the wheel cone and inlet cone is evenly distributed around the wheel.

   Alignment - If necessary, adjust wheel position by loosening the wheel hub (see Tapered Bushing Hub Removal and Installation on page 15) from the motor shaft. Move wheel location and align the wheel cone and inlet cone in a straight line using a straight edge. Refer to Figure 1.

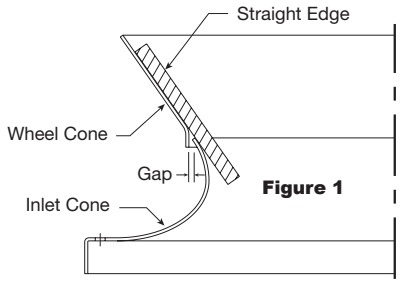


Figure 1

Recommended Fastener Torque

Size	Type	Recommended Torque in·lb (ft·lb)		Application
		Min.	Max.	
1/4 - 20 in.	Hex Bolt	96 (8)	108 (9)	Ductwork
1/4 - 20 in.	Cap Screw	120 (10)	120 (10)	QT Bushing (Size 12-24)
1/4 - 20 in.	Cap Screw	108 (9)	108 (9)	SD Bushing (Size 27-33)
5/16 in.	Semi-Gimlet Bolt	132 (11)	144 (12)	Fan Construction
3/8 - 16 in.	Serrated Flange Bolt/Nut	252 (21)	288 (24)	Motor Mount
1/2 - 13 in.	Serrated Flange Bolt/Nut	564 (47)	636 (53)	Motor Mount

ELECTRICAL CONNECTION

NOTE: When connecting electrical power, be certain not to restrict service to the motor or access panels.

Motor and blower must be securely grounded (bare metal) to a suitable electric ground, such as a grounded water pipe or ground wire system.

All motors used in all fan models covered in this manual are rated TENV or TEFC.

Verify power line wiring is de-energized before connecting ventilator motor to power source. Refer to switch manufacturer for installation and wiring procedures. Model specific wiring is denoted below.

Model 852H81

This fan model has a motor with auto-select voltage capabilities. The motor will recognize any of the rated voltages and adjust accordingly. This model is only capable of being speed controlled with dial on exterior of fan and cannot be controlled with an external 0-10VDC signal.

Models 852H80, 852H82, 852H83, 852H84, 852H85 and 852H86

These fan models utilize a red jumper wire in junction box to manually switch between low and high voltage circuits of the motor. Default from the manufacture, the red jumper circuit is closed and fan is wired 115V. Opening the red jumper circuit will allow the motor to run at 208-230 or 277V.

IMPORTANT: If red jumper circuit is left open, the terminals should be properly capped as the leads are live voltage.

All these models come with a dial on exterior of fan and can be field converted to be controlled with an external 0-10VDC signal. Reference wiring information provided.

Dial on Fan
V_{in} – Yellow
V_{out} – Red
Com – Black

0-10 VDC External Signal
0-10 VDC – Orange
Com – Black

Model 852H87 and 852H88

These fan models are 1 phase / 208-240V. All these models come with a dial on exterior of fan and can be field converted to be controlled with an external 0-10VDC signal. Reference wiring information provided.

Dial on Fan
V_{in} – Green
V_{out} – Black
Com – White

0-10 VDC External Signal
0-10 VDC – Red
Com – White

852H89, 852H90, 852H91

These fan models are 3 phase / 380-480V. All these models come with a dial on exterior of fan and can be field converted to be controlled with an external 0-10VDC signal. Reference wiring information provided.

Dial on Fan
V_{in} – Red
V_{out} – Black
Com – White

0-10 VDC External Signal
0-10 VDC – Red
Com – White

OPERATION

IMPORTANT: The fan has been checked for mechanical noises at the factory prior to shipment. If mechanical noise should develop, suggested corrective actions are offered in the Troubleshooting section.

1. After the fan is installed, disconnect and lock-out all power switches to fan.
2. Before connecting the fan to power, turn the fan wheel by hand to be sure it is not striking the inlet cone (venturi) or any obstacle.
3. Start the fan and shut it off immediately to check rotation of the wheel, see Figure 2.

   Wheel Rotation - Direction of wheel rotation is critical. Reversed rotation will result in poor air performance, motor overloading and possible burnout. Rotation should be counterclockwise when viewed from the fan inlet as shown in Figure 2. If wheel rotation is incorrect, consult support. Fan RPM should be checked and verified with a tachometer.

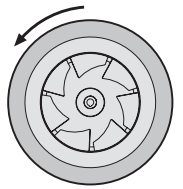


Figure 2

4. When the fan is started, observe the operation and check for any unusual noises.
5. With the system in full operation and all ductwork attached, measure current input to the motor and compare with the nameplate rating to determine if the motor is operating under safe load conditions.
6. Keep inlets and approaches to fan clean and free from obstruction.

7. Electronically commutated motors can be controlled two ways:
   a. The ventilator is equipped with a dial on fan control for manual speed adjustment. To change the fan speed, simply turn the dial clockwise to increase speed, counterclockwise to decrease it.
   b. For automated or remote speed adjustment, the ventilator includes a capped lead wire that can be connected to an optional Dayton variable-speed control kit. Please follow the detailed installation instructions included with the control kit.

Remote Touch 35YV94

Remote Dial 43Y140

2-Speed 35YV92

Inspection

Inspection of the fan should be conducted at the first 30 minute and 24 hour intervals of satisfactory operation.

30 Minute Interval - Inspect bolts, setscrews, cap screws and motor mounting bolts. Adjust and tighten as necessary.

24 Hour Interval - Check all internal components.

TROUBLESHOOTING GUIDE

⚠ WARNING ***Before taking any corrective action, make certain unit is not capable of operation during repairs.***

Symptom	Possible Cause(s)	Corrective Action
Reduced Airflow	System resistance too high	Check system: Proper operation of backdraft or control dampers, obstruction in ductwork, clean dirty filters
	Unit running backwards	Contact support
	Excessive dirt buildup on wheel	Clean wheel
	Improper wheel alignment	Center wheel on inlet cone, see Figure 1 (page 9)
Ventilator Inoperative	Blown fuse or breaker	Replace or repair
	Incorrectly wired	Shut power OFF and check wiring for proper connections
	Defective motor	Replace or repair
Insufficient Airflow	Incorrect wheel rotation	Contact support
	Excessive dirt build up on wheel	Clean wheel
	Improper wheel alignment	Center wheel on inlet cone, see Figure 1 (page 9)
	Fan RPM to slow	Adjust speed with optional Dayton variable-speed control or VFD (if applicable)
	Loose fitting duct sections permitting air loss	Check for secure connection where duct sections are joined (suggest duct tape at seams for sealed closure)
	System resistance to high	Check system: proper orientation and operation of dampers, obstructions in ductwork, etc.
Excessive Noise or Vibration	Accumulation of material on wheel	Clean wheel
	Loose wheel	Tighten setscrews and cap screws
	Wheel improperly aligned and rubbing	Center wheel on inlet cone, see Figure 1 (page 9)
	Wheel out of balance	Clean all dirt off wheel and check wheel balance, rebalance in place if necessary
	Foreign objects in wheel or housing	Remove objects and check for damage or imbalance
Motor Overlaoads or Overheats	Incorrect wheel rotation	Contact support
	Shorted motor winding	Replace motor
	Over/Under line voltage	Contact power company

MAINTENANCE

⚠ WARNING ***Installation, troubleshooting and parts replacement are to be performed only by qualified personnel.***

⚠ WARNING ***Always disconnect, lock and tag power source before servicing. Failure to disconnect power source can result in fire, shock or serious injury.***

⚠ WARNING ***This unit should be made non-functional when cleaning the wheel or housing (fuses removed, disconnect locked off).***

Installation and maintenance are to be performed only by qualified personnel who are familiar with local codes and regulations and who are experienced with this type of equipment.

A proper maintenance program will help these units deliver years of dependable service.

Motor

Motor maintenance is generally limited to cleaning and lubrication (where applicable). Cleaning should be limited to exterior surfaces only. Removing dust buildup on motor housing ensures proper motor cooling.

Greasing of motors is only intended when fittings are provided. Many fractional horsepower motors are permanently lubricated and should not be lubricated after installation. Motors supplied with grease fittings should be greased in accordance with manufacturers' recommendations. As a general rule where motor temperatures do not exceed 104ºF (40ºC), the grease should be replaced after 2,000 hours of running time.

Wheel

Wheels require very little attention when moving clean air. Occasionally, oil and dust may accumulate causing imbalance. When this occurs the wheel and housing should be cleaned to ensure smooth and safe operation.

IMPORTANT: Uneven cleaning of the wheel will produce an out of balance condition that will cause vibration in the fan.

All fasteners should be checked for tightness each time maintenance checks are performed prior to restarting unit.

Tapered Bushing Hub Removal and Installation

For wheel hubs utilizing a tapered bushing interface, follow this procedure for installation and removal.

Bushing Removal

1. Loosen the setscrew holding the bushing and shaft key in place.
2. Loosen and remove the cap screws which fasten the bushing to the hub as shown in Figure 3.
3. Take the cap screws that were removed and install them into the visibly threaded holes on the wheel hub.
4. Once cap screws are installed, tighten them an eighth of a turn at a time, alternating until the bushing comes loose.

Bushing Installation

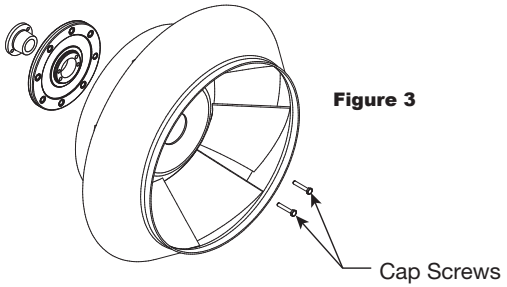
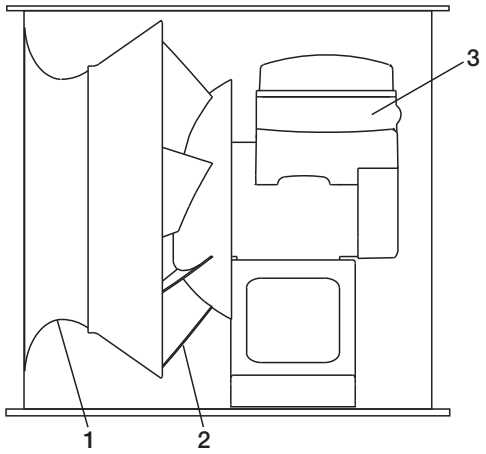


Figure 3

1. Clean all surfaces of hub and bushing to remove any oil or residue present and do not use any lubricant to install bushing into the hub.
2. Slide the bushing and shaft key onto the fan shaft followed by the wheel and hub assembly. If present, use the keyway setscrew to hold the shaft key and bushing in place but DO NOT overtighten as this can damage the bushing. Align the unthreaded holes of the hub with the threaded holes of the tapered bushing.
3. The cap screws are adjustable from the inlet of the fan. Install the bushing socket head cap screws into the aligned holes by hand (or without excessive torque).
4. Adjust the axial location of the wheel in the fan relative to the inlet cone (venturi) as shown in Figure 1, page 9. Then tighten the cap screws an eighth turn at a time in an alternating fashion and to a torque of 10 ft·lbs for QT bushings and 9 ft·lbs for SD bushings.

   NOTE: QT or SD is labeled on the outer edge of the bushing. QT bushings have two cap screws and SD bushings have three cap screws.

REPAIR PARTS ILLUSTRATION FOR MIXED FLOW DIRECT-DRIVE IN-LINE DUCT BLOWER



Ref. No.	Description	Part Number for Models: 852H80	852H81	852H82	852H83	Qty.
1	Inlet Cone					1
2	Mixed Flow Wheel					1
3	Motor					1

Ref. No.	Description	Part Number for Models: 852H84	852H85	852H86	852H87	Qty.
1	Inlet Cone					1
2	Mixed Flow Wheel					1
3	Motor					1

Ref. No.	Description	Part Number for Models: 852H88	852H89	852H90	852H91	Qty.
1	Inlet Cone					1
2	Mixed Flow Wheel					1
3	Motor					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

NOTES

GETTING STARTED
SAFETY / SPECIFICATIONS
ASSEMBLY / INSTALLATION
OPERATION
TROUBLESHOOTING
MAINTENANCE / REPAIR

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