



# Operating Instructions and Parts Manual Bench Metalworking Dust Collector

Model JDC-500B



**JET**  
427 New Sanford Road  
LaVergne, Tennessee 37086  
Ph.: 800-274-6848  
[www.jettools.com](http://www.jettools.com)

**Part No. M-414850**  
Edition 1 11/2020  
Copyright © 2020 JET



## 1.0 IMPORTANT SAFETY INSTRUCTIONS

When using an electrical appliance, basic precautions should always be followed, including the following:

READ ALL INSTRUCTIONS BEFORE USING THIS DUST COLLECTOR.

### **WARNING – To reduce the risk of fire, electric shock, or injury:**

1. Read and understand the entire owner's manual before attempting assembly or operation.
2. Read and understand the warnings posted on the machine and in this manual. Failure to comply with all of these warnings may cause serious injury.
3. Replace the warning labels if they become obscured or removed.
4. Do not use this metal dust collector for other than its intended use. If used for other purposes, JET disclaims any real or implied warranty and holds itself harmless from any injury that may result from that use.
5. Make certain the switch is in the OFF position before connecting the machine to the power supply.
6. Wear approved safety glasses/face shields while using and cleaning this machine. Everyday eyeglasses only have impact resistant lenses; they are not safety glasses.
7. Wear ear protectors (plugs or muffs) during extended periods of operation.
8. Make certain the machine is properly grounded.
9. Make all machine adjustments or maintenance with the machine unplugged from the power source.
10. Remove adjusting keys and wrenches. Form a habit of checking to see that keys and adjusting wrenches are removed from the machine before turning it on.
11. Keep safety guards in place at all times when the machine is in use. If removed for maintenance purposes, use extreme caution and replace the guards immediately after completion of maintenance.
12. Check damaged parts. Before further use of the machine, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
13. Provide for adequate space surrounding work area and non-glare, overhead lighting.
14. Keep the floor around the machine clean and free of scrap material, oil and grease.
15. Keep visitors a safe distance from the work area. Keep children away.
16. Make your workshop child proof with padlocks, master switches or by removing starter keys.
17. Give your work undivided attention. Looking around, carrying on a conversation and "horse-play" are careless acts that can result in serious injury.
18. Use the right tool at the correct speed and feed rate. Do not force a tool or attachment to do a job for which it was not designed. The right tool will do the job better and more safely.
19. Use recommended accessories; improper accessories may be hazardous.
20. Maintain tools with care. Follow instructions for lubricating and changing accessories.
21. Turn off the machine before cleaning. Use a brush or vacuum to remove chips or debris — do not use bare hands.
22. Do not stand on the machine. Serious injury could occur if the machine tips over.
23. Never leave the machine running unattended. Turn the power off and do not leave the machine until it comes to a complete stop.
24. Remove loose items and unnecessary work pieces from the area before starting the machine.
25. Do not use this machine in damp or wet locations, or expose it to rain. Keep work area well lighted.
26. Do not use this dust collector to pick up flammable or combustible liquids, and do not use it in explosive environments.
27. Do not use the dust collector to dissipate fumes or smoke. Never pick up anything that is burning or smoking, such as cigarettes, matches, or hot ashes.
28. Do not insert fingers or foreign objects into the inlet ports. Keep hair, loose clothing, and all body parts away from openings and moving parts of the dust collector.
29. Do not unplug the machine by pulling on the power cord – grasp the plug, not the cord.
30. Do not pull the machine by the power cord, or allow the power cord to contact sharp edges or hot surfaces. Replace a damaged cord immediately.
31. Never mix ferrous and non-ferrous metal dust in the same dust collector. If you are not familiar with the proper and safe usage of metal dust collection systems do not use until proper training has been obtained.

 **WARNING:** This product can expose you to chemicals including lead and cadmium which are known to the State of California to cause cancer and birth defects or other reproductive harm, and phthalates which are known to the State of California to cause birth defects or other reproductive harm. For more information go to <http://www.p65warnings.ca.gov>.

 **WARNING:** Some dust, fumes and gases created by power sanding, sawing, grinding, drilling, welding and other construction activities contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Some examples of these chemicals are:

- lead from lead based paint
- crystalline silica from bricks, cement and other masonry products
- arsenic and chromium from chemically treated lumber

Your risk of exposure varies, depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area and work with approved safety equipment, such as dust masks that are specifically designed to filter out microscopic particles. For more information go to <http://www.p65warnings.ca.gov/> and [http://www.p65warnings.ca.gov/ wood](http://www.p65warnings.ca.gov/wood).

**Familiarize yourself with the following safety notices used in this manual:**

 **CAUTION** This means that if precautions are not heeded, it may result in minor injury and/or possible machine damage.

 **WARNING** This means that if precautions are not heeded, it may result in serious, or possibly even fatal, injury.

**SAVE THESE INSTRUCTIONS**

## 2.0 Table of contents

Section	Page
1.0 IMPORTANT SAFETY INSTRUCTIONS .....	2
2.0 Table of contents.....	4
3.0 About this manual .....	4
4.0 Specifications .....	5
5.0 Setup and assembly.....	6
5.1 Unpacking and cleanup.....	6
5.2 Shipping contents.....	6
5.3 Tools required for assembly .....	6
5.4 Assembly.....	6
6.0 Operation .....	6
6.1 On/off switch.....	6
6.2 Overload reset.....	6
7.0 Electrical connections .....	7
7.1 GROUNDING INSTRUCTIONS .....	7
7.2 Extension cords.....	7
8.0 User-maintenance.....	8
8.1 Additional servicing .....	8
9.0 Optional accessories.....	8
10.0 Replacement Parts.....	8
10.1 JDC-500B Bench Dust Collector – Exploded View .....	9
10.2 JDC-500B Bench Dust Collector – Parts List .....	10
11.0 Electrical Connections for JDC-500B.....	11
12.0 Warranty and service .....	12

## 3.0 About this manual

This manual is provided by JET, covering the safe operation and maintenance procedures for a JET Model JDC-500B Metalworking Dust Collector. This manual contains instructions on installation, safety precautions, general operating procedures, maintenance instructions and parts breakdown. The dust collector has been designed and constructed to provide consistent, long-term operation if used in accordance with the instructions as set forth in this document.

If there are questions or comments, please contact your local supplier or JET. JET can also be reached at our web site: [www.jettools.com](http://www.jettools.com).

Retain this manual for future reference. If the machine transfers ownership, the manual should accompany it.

*The specifications in this manual were current at time of publication, but because of our policy of continuous improvement, JET reserves the right to change specifications at any time and without prior notice, without incurring obligations.*

## 4.0 Specifications

Model number	<b>JDC-500B</b>	
Stock number	414850	
<b>Motor and electricals</b>		
Motor type	totally enclosed industrial	
Horsepower	1/3 HP (0.25 kW)	
Motor phase	single	
Motor voltage	115V	
Cycle	60 Hz	
Listed FLA (full load amps)	3.6A	
Run capacitor	10 $\mu$ F 350VAC	
Motor speed	3,420 RPM	
On/off switch	Toggle switch with removable key	
Power cord	16AWGx3C, 6 ft., SJT	
Power plug	5-15P, 125V/15A, installed	
Recommended minimum circuit size <sup>1</sup>	15 A	
Sound emission without load <sup>2</sup>	75 dB at 3 ft.	
<b>Impeller</b>		
Impeller diameter	8 in. (203 mm)	
Impeller type	Radial fin	
Impeller material	Steel, non-sparking	
<b>Performance</b>		
Blower only	Air flow at 4 in.	410 CFM (11.6 cmm)
	Air velocity at 4 in.	4,684 FPM (23.8 m/s)
	Static pressure loss (WC)	2.13 inH <sub>2</sub> O (54 mmH <sub>2</sub> O)
	Maximum static pressure loss (WC)	4.02 inH <sub>2</sub> O (102 mmH <sub>2</sub> O)
Assembled unit with exhaust filter installed	Air flow at 3 in.	176 CFM (5.0 cmm)
	Air velocity at 3 in.	3,583 FPM (18.2 m/s)
	Static pressure loss (WC)	1.18 inH <sub>2</sub> O (30 mmH <sub>2</sub> O)
	Maximum static pressure loss (WC)	3.74 inH <sub>2</sub> O (95 mmH <sub>2</sub> O)
<b>Filter</b>		
Filter size	11-25/32 x 10-15/32 x 1-13/16 in. (299 x 266 x 30 mm)	
Filter frame material	Sheet metal	
Filter style	composite (double material)	
Filter expanded area	20.28 in <sup>2</sup>	
Filter inside material	Anti-spark/fireproof (MERV 11)	
Filter outside material	Spunbond polyester (MERV 13)	
<b>Cabinet</b>		
Foot print (W x D)	14-9/32 x 19-5/8 in. (363 x 499 mm)	
Inlet port diameter	3 in. (76 mm)	
Sheet metal thickness	18 ga. (1.2 mm)	
Drawer capacity	14.65 in <sup>3</sup> (2.4 L)	
<b>Dimensions</b>		
Assembled dimensions (W x D x H)	14-9/2 x 19-5/8 x 16-15/16 in. (363 x 499 x 430 mm)	
Shipping dimensions L x W x H	22-5/8 x 14-9/16 x 19-1/2 in. (575 x 370 x 495 mm)	
<b>Weights</b>		
Net weight	49 lb. (22.2 kg)	
Shipping weight	53 lb. (24 kg)	

<sup>1</sup> Subject to local/national electrical codes.

<sup>2</sup> The specified values are emission levels and are not necessarily to be seen as safe operating levels. As workplace conditions vary, this information is intended to allow the user to make a better estimation of the hazards and risks involved only.

**⚠WARNING**

Read and understand the entire contents of this manual before attempting assembly or operation. Failure to comply may cause serious injury.

## 5.0 Setup and assembly

### 5.1 Unpacking and cleanup

Remove all contents from shipping carton, and remove accessories from drawer inside stand. Also, the adaptor is shipped inside the cabinet behind the filter door. Remove door to access.

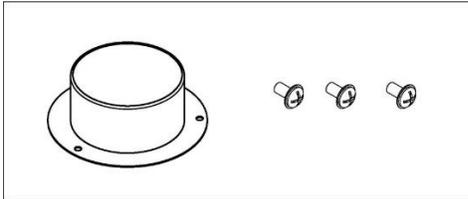
Compare parts to the contents list in this manual. If shipping damage or any part shortages are identified, contact your distributor. Do not discard carton or packing material until dust collector is assembled and running satisfactorily.

### 5.2 Shipping contents

- 1 Dust Collector
- 1 Operating Instructions & Parts Manual
- 1 Product Registration Card

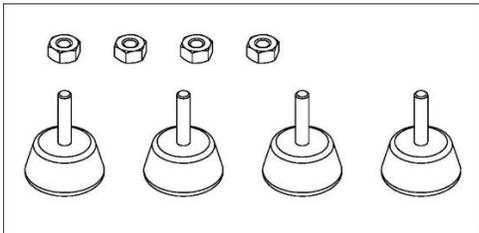
#### Package 1:

- 1 Inlet port 3-in. dia.
- 3 Flange Head Screws, 3/16 x 1/4 in.



#### Package 2:

- 4 Hex nuts, 1/4 in.
- 4 Foot pads, 1/4 x 3/4 in.



### 5.3 Tools required for assembly

- Cross point ("Phillips") screwdriver
- 4 mm hex key (Allen wrench)

## 5.4 Assembly

1. Release drawer by turning knob counter-clockwise (see Figure 5-1) and remove the packages from the drawer. Close drawer and rotate knob clockwise to secure.
2. Screw hex nuts onto threads of foot pads, and install pads beneath the corners of the unit. Each pad can be turned slightly in or out to help level the unit. Tighten each hex nut against the bottom of the unit.
3. Attach a 3-in. diameter dust hose (not provided) to the inlet port. A hole in the inlet allows insertion of a screw to secure the hose to the inlet. Or a hose clamp can be used.



Figure 5-1

## 6.0 Operation

**⚠WARNING**

Do not mix ferrous and non-ferrous metal dust in the same dust collector. Failure to comply will result in increased risk of fire.

### 6.1 On/off switch

Push up switch to start the unit, push down to stop.

The switch has a yellow safety key to prevent unauthorized use. Pull out key to deactivate switch. Key must be reinserted to start machine – press until it snaps back in.

### 6.2 Overload reset

If the machine overloads, it will shut off. Wait a few moments for machine to cool, then press the reset button (next to the On/Off switch) to restart.

## 7.0 Electrical connections

**⚠WARNING** All electrical connections must be done by a qualified electrician in compliance with all relevant codes and ordinances. Failure to comply may result in serious injury.

The JDC-500B Dust Collector is rated at 115-volt only, and is provided with a 5-15P plug designed for use on a circuit with a *grounded outlet* that looks like the one pictured in **A**, Figure 6-1.

Before connecting to power source, be sure switch is in *off* position.

It is recommended that the unit be connected to a dedicated minimum 15 amp circuit with circuit breaker or time-delay fuse marked "D". **Local codes take precedence over recommendations.**

### 7.1 GROUNDING INSTRUCTIONS

#### 1. All Grounded, Cord-connected Tools:

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

**⚠WARNING** Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded. Failure to comply may cause serious or fatal injury.

Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug.

Repair or replace damaged or worn cord immediately.

#### 2. Grounded, cord-connected tools intended for use on a supply circuit having a nominal rating *less than 150 volts*:

This tool is intended for use on a circuit that has an outlet that looks like the one illustrated in **A**, Figure 6-1. An adapter, shown in **B**, may be used to connect this plug to a 2-pole receptacle as shown in **B** if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician. *This adapter is not permitted in Canada.* The green-colored rigid ear, lug, and the like, extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box.

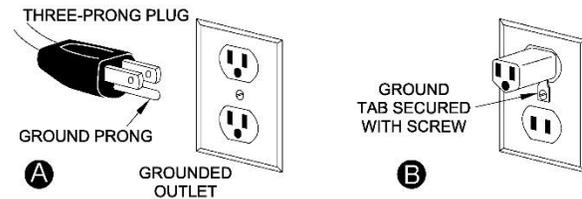


Figure 6-1

### 7.2 Extension cords

The use of extension cords is discouraged; try to position equipment within reach of the power receptacle. If an extension cord becomes necessary, be sure it is heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.

Table 1 shows recommended size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

Amp Rating		Volts	Total length of cord in feet			
More Than	Not More Than	120	25	50	100	150
			AWG			
0	6		18	16	16	14
6	10		18	16	14	12
10	12		16	16	14	12
12	16		14	12	Not Recommended	

Extension Cord Recommendations  
Table 1

## 8.0 User-maintenance

**⚠WARNING** Always disconnect power to the machine before performing maintenance. Failure to do this may result in serious personal injury.

Perform the following on a regular basis:

- Empty chip drawer.
- Clean out dust or debris from inside the cabinet, with brush or shop vacuum. Do NOT use compressed air, which can force metal debris into working parts of the machine.
- Inspect and clean the exhaust filter. To access filter, remove the 6 screws from the exhaust cover and remove cover. Loosen the hand knobs on the inside of the cover and slide out the filter.
- Replace filter if needed.
- Inspect power cord; have damaged or worn cord replaced before operating dust collector.

### 8.1 Additional servicing

Any additional servicing should be performed by authorized service personnel.

## 9.0 Optional accessories

The following accessories are available for the JDC-500B and are ordered separately.

- 414851 Replacement filter
- 414852 3" Hose Clamps (2 pcs)
- 414853 2" Hose Clamps (2 pcs)
- 414854 Caster Set (4 pcs)
- 414825 3" to 2-1/2" Reducer sleeve
- 414820 3" to 2" Reducer sleeve
- 414815 3" to 1-1/2" Reducer sleeve

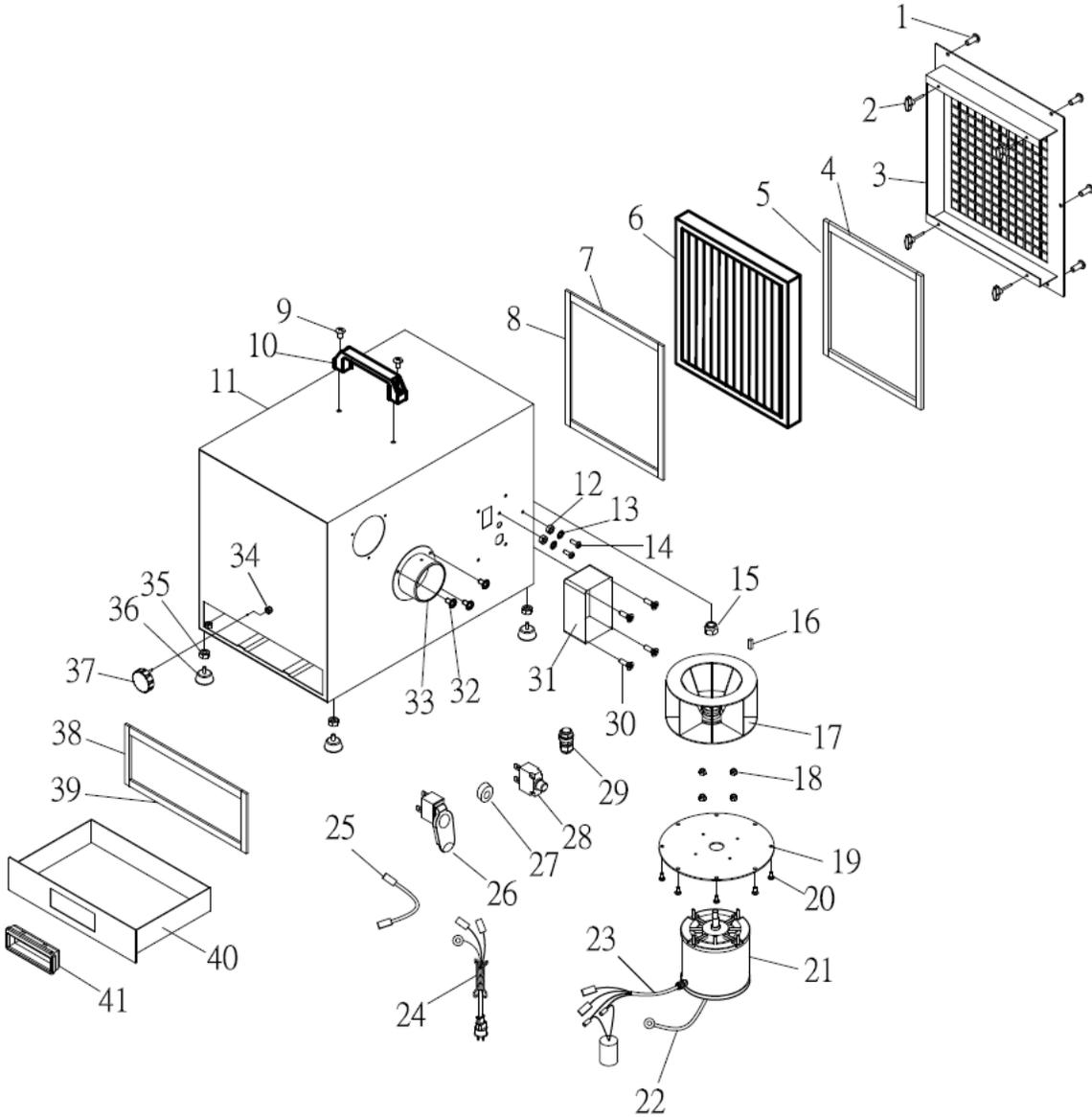
## 10.0 Replacement Parts

To order parts or reach our service department, call 1-800-274-6848 Monday through Friday, 8:00 a.m. to 5:00 p.m. CST. Having the Model Number and Serial Number of your machine available when you call will allow us to serve you quickly and accurately.

Non-proprietary parts, such as fasteners, can be found at local hardware stores, or may be ordered from JET.

Some parts are shown for reference only, and may not be available individually.

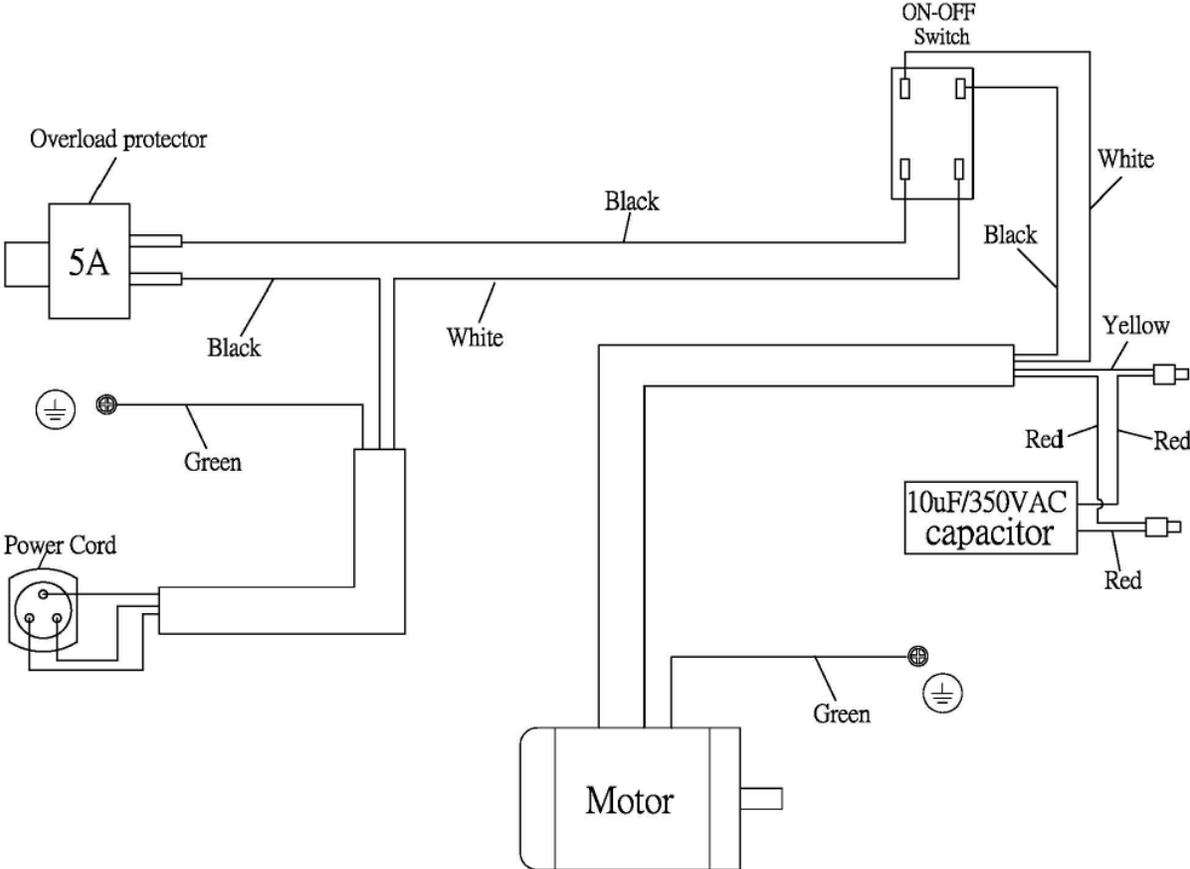
10.1 JDC-500B Bench Dust Collector – Exploded View



## 10.2 JDC-500B Bench Dust Collector – Parts List

Index No	Part No	Description	Size	Qty
1	TS-2245102	Socket HD Button Screw	M5-0.8 x 10	6
2	JDC500B-02	Hand Knob	1/4 x 5/8	4
3	JDC500B-03	Exhaust Cover		1
4	JDC500B-04	Foam Strip	L230 x W16 x T2 /mm	2
5	JDC500B-05	Foam Strip	L302 x W16 x T2 /mm	2
6	414851	Exhaust Filter		1
7	JDC500B-07	Foam Strip	L276 x W16 x T2 /mm	2
8	JDC500B-08	Foam Strip	L370 x W16 x T2 /mm	2
9	TS-081F031	Flat HD Phillips Screw	1/4-20 x 1/2	2
10	JDC-500019	Handle		1
11	JDC500B-11	Cabinet		1
12	TS-0560071	Hex Nut	#10-24	2
13	F002097	External Tooth Lock Washer	M5	2
14	F000231	Pan HD Phillips Screw	#10-24 x 3/8	2
15	TS-2342101	Nylon Lock Hex Nut	M10	1
16	JDC500B-16	Key	4 x 4 x 30	1
17	JDC500B-17	Impeller	Dia. 8"	1
18	TS-1540021	Hex Nut	M4	4
19	JDC500B-19	Motor Bracket		1
20	TS-081F032	Pan HD Phillips Screw	1/4-20 x 1/2	8
21	JDC500B-21	Motor		1
	JDC500B-21E	Motor Assembly (includes #22~23 and capacitor)		1
	JDC500B-21RC	Running Capacitor	10 $\mu$ F, 350VAC	1
22	JDC500B-22	Ground Wire		1
23	JDC500B-23	Motor Cable	16AWG x 5C	1
24	JDC500B-24	Power Cable	16AWG x 3C	1
25	JDC500B-25	Connect Wire		1
26	994534	On/Off Switch		1
	JSG96-135A	Safety Key (not shown)		1
27	JDC500B-27	Strain Relief Bushing	SB8R-1	1
28	JDC500B-28	Overload Protector	5A	1
29	JDC500B-29	Cable Gland	MGB16-10B-ST	1
30	JDC500B-30	Pan HD Tapping Screw	M4-0.7 x 25	4
31	JDC500B-31	Switch Box	Dustproof Style	1
32	5711571	Pan HD Phillips Screw	3/16 x 1/4	3
33	JDC500B-33	Dust Port	Dia. 3"	1
34	TS-1541011	Nylon Lock Hex Nut	M5-0.8	1
35	TS-0561011	Hex Nut	1/4-20	4
36	JDC500B-36	Adjustable Foot Pad	1/4 x 3/4	4
37	JDC500B-37	Lock Knob	M5 x 10	1
38	JDC500B-38	Foam Strip	L68 x W10 x T2 /mm	2
39	JDC500B-39	Foam Strip	L282 x W10 x T2 /mm	2
40	JDC500B-40	Dust Collection Drawer		1
41	JDC-500030	Drawer Handle		1
	JDC500B-ID	ID/Warning Label, JDC-500B (not shown)		1

# 11.0 Electrical Connections for JDC-500B



# 12.0 Warranty and service

JET warrants every product it sells against manufacturers' defects. If one of our tools needs service or repair, please contact Technical Service by calling 1-800-274-6846, 8AM to 5PM CST, Monday through Friday.

**Warranty Period**

The general warranty lasts for the time period specified in the literature included with your product or on the official JET branded website.

- JET products carry a limited warranty which varies in duration based upon the product. (See chart below)
- Accessories carry a limited warranty of one year from the date of receipt.
- Consumable items are defined as expendable parts or accessories expected to become inoperable within a reasonable amount of use and are covered by a 90 day limited warranty against manufacturer's defects.

**Who is Covered**

This warranty covers only the initial purchaser of the product from the date of delivery.

**What is Covered**

This warranty covers any defects in workmanship or materials subject to the limitations stated below. This warranty does not cover failures due directly or indirectly to misuse, abuse, negligence or accidents, normal wear-and-tear, improper repair, alterations or lack of maintenance. JET woodworking machinery is designed to be used with Wood. Use of these machines in the processing of metal, plastics, or other materials outside recommended guidelines may void the warranty. The exceptions are acrylics and other natural items that are made specifically for wood turning.

**Warranty Limitations**

Woodworking products with a Five Year Warranty that are used for commercial or industrial purposes default to a Two Year Warranty. Please contact Technical Service at 1-800-274-6846 for further clarification.

**How to Get Technical Support**

Please contact Technical Service by calling 1-800-274-6846. **Please note that you will be asked to provide proof of initial purchase when calling.** If a product requires further inspection, the Technical Service representative will explain and assist with any additional action needed. JET has Authorized Service Centers located throughout the United States. For the name of an Authorized Service Center in your area call 1-800-274-6846 or use the Service Center Locator on the JET website.

**More Information**

JET is constantly adding new products. For complete, up-to-date product information, check with your local distributor or visit the JET website.

**How State Law Applies**

This warranty gives you specific legal rights, subject to applicable state law.

**Limitations on This Warranty**

JET LIMITS ALL IMPLIED WARRANTIES TO THE PERIOD OF THE LIMITED WARRANTY FOR EACH PRODUCT. EXCEPT AS STATED HEREIN, ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. JET SHALL IN NO EVENT BE LIABLE FOR DEATH, INJURIES TO PERSONS OR PROPERTY, OR FOR INCIDENTAL, CONTINGENT, SPECIAL, OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF OUR PRODUCTS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

JET sells through distributors only. The specifications listed in JET printed materials and on official JET website are given as general information and are not binding. JET reserves the right to effect at any time, without prior notice, those alterations to parts, fittings, and accessory equipment which they may deem necessary for any reason whatsoever. JET® branded products are not sold in Canada by JPW Industries, Inc.

**Product Listing with Warranty Period**

90 Days – Parts; Consumable items
1 Year – Motors; Machine Accessories
2 Year – Metalworking Machinery; Electric Hoists, Electric Hoist Accessories; Woodworking Machinery used for industrial or commercial purposes
5 Year – Woodworking Machinery
Limited Lifetime – JET Parallel clamps; VOLT Series Electric Hoists; Manual Hoists; Manual Hoist Accessories; Shop Tools; Warehouse & Dock products; Hand Tools; Air Tools

NOTE: JET is a division of JPW Industries, Inc. References in this document to JET also apply to JPW Industries, Inc., or any of its successors in interest to the JET brand.