



# Operating Instructions and Parts Manual Metal Dust Collector

Model JDC-501



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## 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 compressed air to remove chips or debris — do not use your 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>.

**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 injury or possibly even death.

## 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
6.0 Electrical connections .....	6
6.1 Grounding instructions .....	6
6.2 Voltage conversion.....	7
6.3 Extension cords.....	7
7.0 Operation .....	7
7.1 Control switch.....	7
8.0 Maintenance.....	8
9.0 Replacement Parts.....	8
9.1.1 JDC-501 Dust Collector – Exploded View.....	9
9.1.2 JDC-501 Dust Collector – Parts List.....	10
10.0 JDC-501 Dust Collector Wiring Diagram.....	11
11.0 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-501 Metal Dust Collector. This manual contains instructions on installation, safety precautions, general operating procedures, maintenance instructions and parts breakdown. Your machine has been designed and constructed to provide consistent, long-term operation if used in accordance with 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.

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

Register your product using the mail-in card provided, or register online:

<http://www.jettools.com/us/en/service-and-support/product-registration/>

## 4.0 Specifications

Model number .....JDC-501

Stock numbers:

Dust collector ..... 414700  
Replacement filters (set of 2) ..... 414705

Motor and electricals:

Motor type..... totally enclosed fan cooled, induction, capacitor start  
Horsepower ..... 1.5 HP (1.1 kW)  
Phase ..... single  
Voltage ..... 115/230V (prewired 115V)  
Cycle..... 60Hz  
Listed FLA (full load amps) ..... 15A(115V) / 7.5A(230V)  
Start capacitor..... 300MFD/ 125VAC  
Run capacitor..... 30µf/250V  
On/off switch..... magnetic, with removable safety key  
Motor speed..... 1450RPM  
Power cord length..... 6 ft. (183 cm)  
Power plug installed..... yes  
Recommended circuit size<sup>1</sup> ..... 20A for 115V; 15A for 230V  
Recommended fuse/breaker size<sup>1</sup> ..... 30A for 115V; 20A for 30V  
Noise emission ..... 75 dB at 5 ft. (152.4 cm) from fan

Materials:

Cabinet ..... steel  
Impeller and housing ..... steel (non-sparking)  
Casters ..... polyurethane  
Filters..... micro steel mesh

Other:

Maximum capacity ..... 490 cfm (13.88 cmm)  
Maximum hose velocity ..... 5610 fpm (1710 mpm)  
Number of filters ..... 2  
Filter size ..... 19"L x 9.5"w x 2"Thk (483 x 241 x 51 mm)  
Filter efficiency..... 99% of 5 micron particles  
Number of dust ports ..... 2  
Dust port outside diameter..... 3" (76 mm)  
Dust port outside diameter with adaptor ..... 2" (50 mm)  
Casters ..... 2-1/2" (64 mm) diameter, swivel

Dimensions:

Dimensions, shipping..... 32" L x 28"W x 30.9"H (813 x 711 x 785 mm)  
Dimensions, assembled..... 30.5"L x 31.5"W x 31.5"H (775 x 800 x 800 mm)  
Impeller diameter ..... 11" (279 mm)

Weights:

Net ..... 157 lb (71 kg)  
Shipping..... 192lb (87.2kg)

<sup>1</sup> subject to local and national electrical codes.

*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.*

## 5.0 Setup and assembly

### Carton contents:

- 1 Dust Collector
- 2 3" to 2" adaptors
- 2 Filters (pre-installed)
- 4 Caster assemblies
- 16 Washer Head Screws, 5/16" x 1/2"
- 1 Open End Wrench, 10-12mm

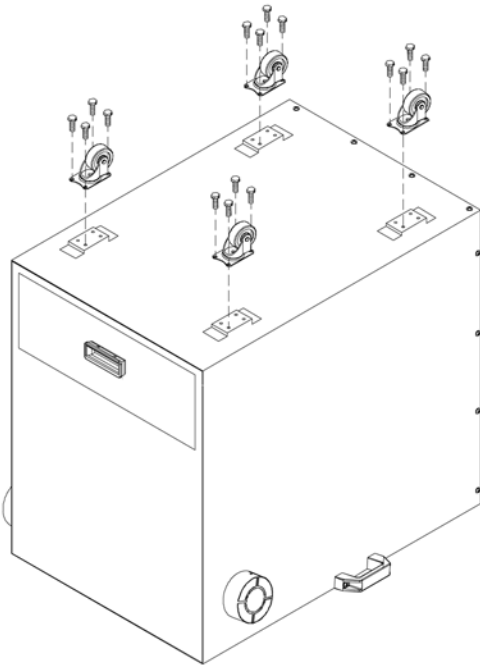


Figure 1

Turn dust collector upside down, with help from an assistant. Assemble casters to plates with the washer head screws. See Figure 1.

## 6.0 Electrical connections

The JDC-501 Dust Collector is rated at 115/230V power, pre-wired for 115 volt, and supplied with a plug.

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

It is recommended that the dust collector, when operated on **115 volt power**, be connected to a dedicated 20 amp circuit with a 30 amp circuit breaker or time-delay fuse marked "D". When operated on **230 volt power**, it is recommended that the dust collector be connected to a dedicated 15 amp circuit with a 20 amp circuit breaker or time-delay fuse marked "D". **Local codes take precedence over recommendations.**

## 6.1 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 2. An adapter, shown in **B** and **C**, 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.

### 3. Grounded, cord-connected tools intended for use on a supply circuit having a nominal rating **between 150 - 250 volts, inclusive**:

This tool is intended for use on a circuit that has an outlet that looks like the one illustrated in **D**, Figure 2. The tool has a grounding plug that looks like the plug illustrated in **D**. Make sure the tool is connected to an outlet having the same configuration as the plug.

No adapter is available or should be used with this tool. If the tool must be reconnected for use on a different type of electric circuit, the reconnection should be made by qualified service personnel; and after reconnection, the tool should comply with all local codes and ordinances.

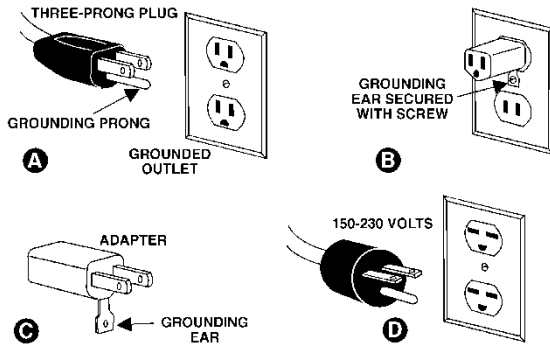


Figure 2

### 6.2 Voltage conversion

To switch the incoming power leads for 230 volt operation, follow the wiring diagram on the inside cover of motor junction box. To access junction box, remove filters and cover (part #1, section 9.1.1).

The plug on the end of the motor cord must be replaced with a UL/CSA listed plug rated for 240V.

### 6.3 Extension cords

The use of extension cords is discouraged. Try to place equipment within reach of the power source. If an extension cord is necessary, make sure it is in good condition and 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 correct 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.

Ampere Rating		Volts	Total length of cord in feet			
More Than	Not More Than		120 240	25 50	50 100	100 200
			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

## 7.0 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.

### 7.1 Control switch

Refer to Figure 3.

Pull out on switch (B) to start machine. Green power indicator lamp (A) will illuminate.

Push switch in to stop. (Power indicator lamp will turn off.)

The safety key (C) prevents unauthorized use of the machine. Remove this key to deactivate the switch; insert it to restart.

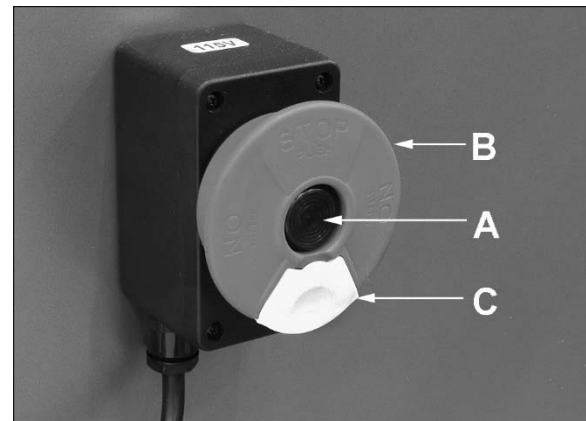


Figure 3

## 8.0 Maintenance

Periodically empty the chip drawer, and clean out the interior of the dust collector.

Keep the fan end of the motor clear of dust and debris.

Replace filters after *maximum* 800 hours of use. See Figure 4.

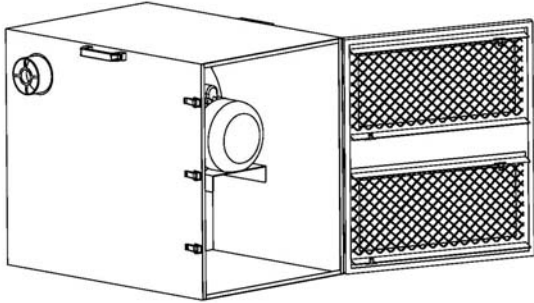


Figure 4

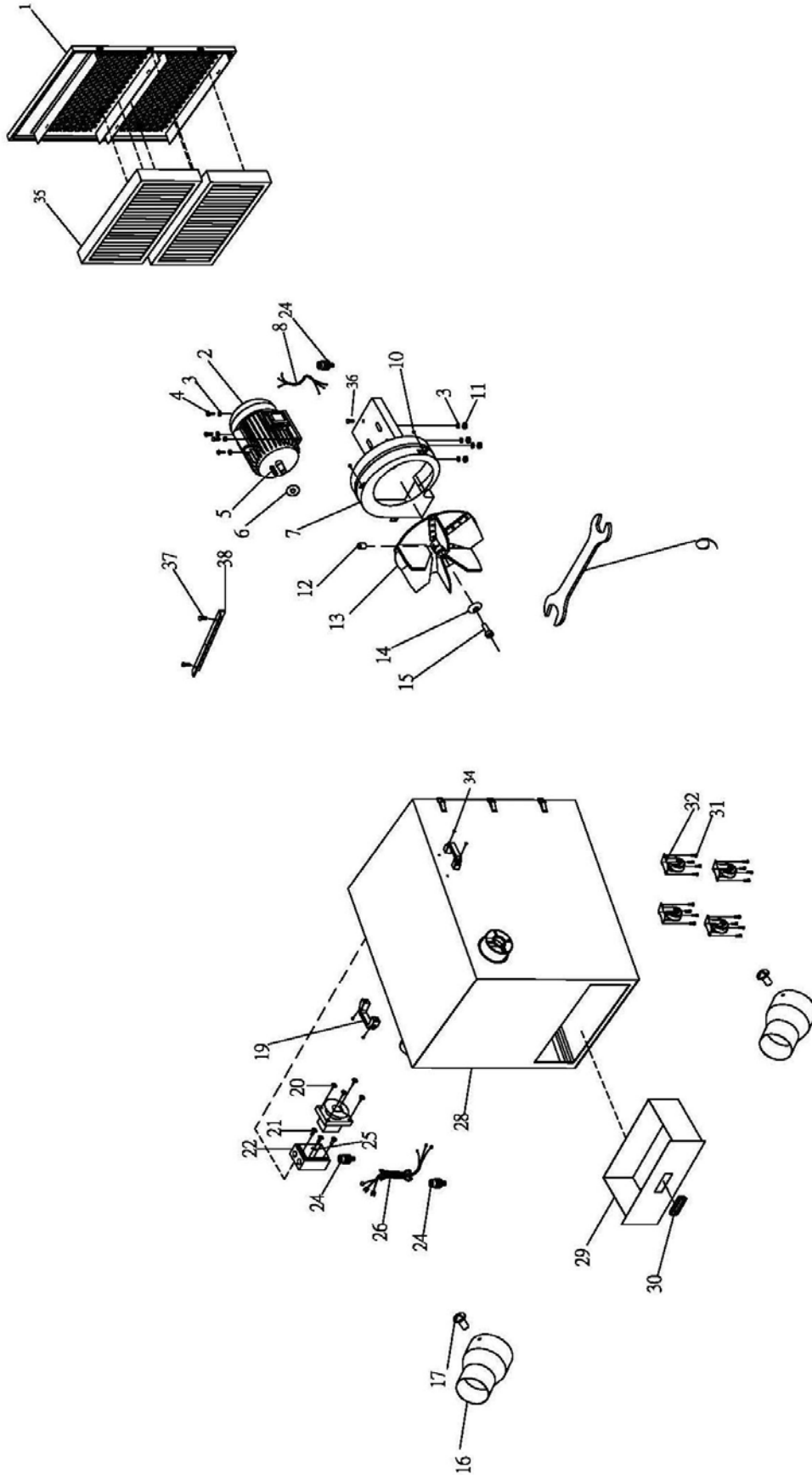
## 9.0 Replacement Parts

Replacement parts are listed on the following pages. 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.



### 9.1.1 JDC-501 Dust Collector – Exploded View

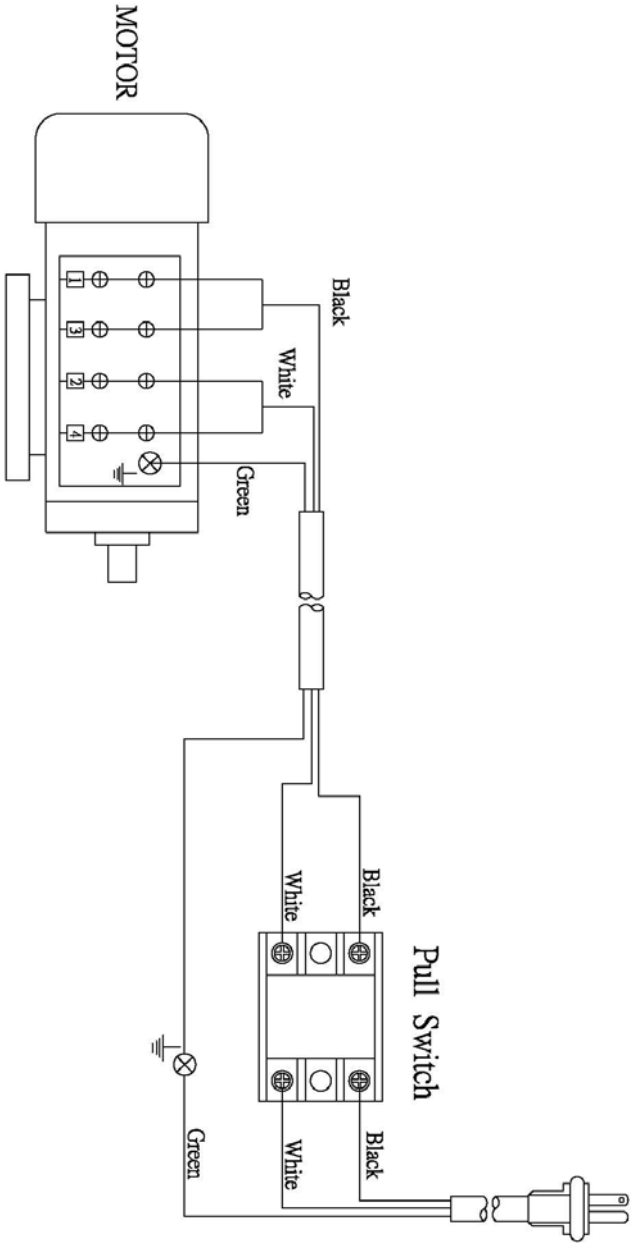


## 9.1.2 JDC-501 Dust Collector – Parts List

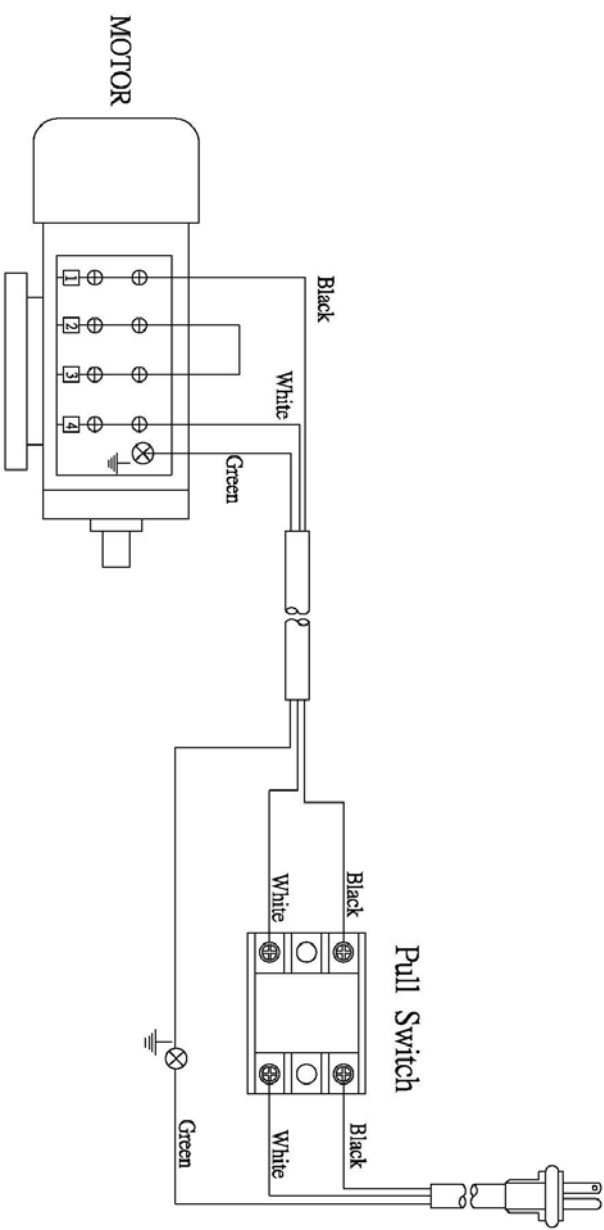
Index No	Part No	Description	Size	Qty
1	JDC-500001AG	Front Cover		1
2	JDC-500002	Motor	1.5HP 115/230V	1
	JDC-500002-MF	Motor Fan (not shown)		1
	JDC-500002-MFC	Motor Fan Cover (not shown)		1
	JDC-500002-JB	Junction Box with cover (not shown)		1
	JDC-500002-SC	Start Capacitor	125VAC/300MFD	1
	JDC-500002-RC	Run Capacitor	250VAC/30µf	1
3	TS-0680031	Flat Washer	5/16"	8
4	TS-0051051	Hex Cap Screw	5/16"x1"	1
5	JDC-500005	Key	6x6x25 mm	1
6	JDC-500006	Motor Packing		1
7	JDC-500007G	Canister Housing		1
8	JDC-500008	Motor Cord		1
9	GH1340A-TBCP-16-04	Open End Wrench	10/12mm	1
10	TS-1533032	Pan Head Screw	M5x10	3
11	TS-0570021	Hex Nut	5/16"	4
12	JDC-500012	Set Screw	5/16"x5/16"	1
13	JDC-500013	Impeller	Ø11"	1
14	JDC-500014	Washer		1
15	TS-1503051	Socket Head Cap Screw	M6x20	1
16	JDC-500016BG	Hose Adaptor	3" to 2"	2
17	JDC-500017	Phillips Head Screw	3/16"x3/8"	2
19	JDC-500019	Handle		2
20	JDC-500020	Tapping Screw		4
21	JDC-500021	Phillips Head Screw	3/16"x3/8"	3
22	JDC-500022	Pull-Out Switch Assembly		1
	JDC-500022-SC	Safety Key		1
24	JDC-500024	Strain Relief	PG-16	3
25	JDC-500025	External Tooth Lock Washer	3/16"	1
26	JDC-500026	Power Cord		1
28	JDC-500028G	Main Housing		1
29	JDC-500029G	Drawer		1
30	JDC-500030	Drawer Handle		1
31	JDC-500031	Washer Head Screw	5/16"x1/2"	16
32	JDC-500032	Swivel Caster	Ø 2-1/2"	4
34	JDC-500034	Phillips Head Screw	1/4"x5/8"	2
35	414705	Filter (set of 2)		2
36	TS-1482021	Hex Cap Screw	M6x12	1
37	TS-1482021	Hex Cap Screw	M6x12	2
38	JDC-500038G	Bracket		1
	JET-165	JET Logo (not shown)	165 x 68mm	1
	JDC500-ID	I.D. Label (not shown)		1
	JDC500-CL	Caution Label (not shown)		1

# 10.0 JDC-501 Dust Collector Wiring Diagram

115 V



230 V



# 11.0 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.

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### 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.