



Operating Instructions and Parts Manual

Metalworking Dust Collector

Model JDC-510



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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. This dust collector is designed to collect metal dust and debris; do not use it 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. Do NOT use compressed air.
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 without dust bag and/or filter in place.
28. 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.
29. 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.
30. Do not unplug the machine by pulling on the power cord – grasp the plug, not the cord.
31. 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.
32. 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 which is known to the State of California to cause cancer and 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.

SAVE THESE INSTRUCTIONS

2.0 Specifications

Model number	JDC-510
Stock number	414900
Motor and electricals	
Motor type	totally enclosed fan cooled, induction, capacitor start
Horsepower	3 HP (2.25 kW)
Phase	single
Voltage	230 V
Cycle	60 Hz
Listed FLA (full load amps)	15A (230V)
Start capacitor	600MFD 125VAC
Run capacitor	45 μ F 350VAC
On/off switch	magnetic contactor with overload relay
Motor speed	3450 RPM
Power cord	SJT 14AWGx3C, 6 ft. (183 cm)
Power plug installed	6-20P
Recommended circuit size ¹	15A for 230V
Recommended fuse/breaker size ¹	20A for 230V
Noise emission ²	85 dB at 5 ft. (152.4 cm) from impeller
Main materials	
Cabinet	Steel (sheet metal frame)
Impeller	Steel
Inlet port, adaptor, and cap	Steel
Casters	Polyurethane
Chip drawer	Steel
Filter	Aluminum outer frame with micro steel mesh, fireproof
Dust collection bag	Non-woven (fabric), fireproof
Capacities and Efficiency	
Inlet port, outside diameter	8 in. (203 mm)
Inlet adaptor	8" to three 3 in. (102mm)
Air flow rate with filter	957 CFM (27.1 CMM) at 8in. inlet 412 CFM (11.65 CMM) at 3in. inlet
Air flow velocity	2736 FPM (834 MPM) at 8in. inlet 8366 FPM (2550 MPM) at 3in. inlet
Maximum static pressure	9.4 inH ₂ O
Number of filters	1
Filter type	5 Micro Filter paper, fireproof
Filter size LxWxH	19-3/8 x 25 x 1-25/32 in. (492 x 635 x 46 mm)
Filter efficiency	84.3% of 1 micron to 5 microns; 95.4% of 3 microns to 10 microns
Dust collection bag capacity	50 L
Dimensions	
Overall dimensions, LxWxH (with handle and casters installed)	32.5 x 32 x 39.6 in. (826 x 810 x 1007 mm)
Shipping dimensions, LxWxH	32 x 27-1/2 x 42 in. (808 x 700 x 1067 mm), includes pallet
Swivel casters diameter	2-1/2 in. (63.5 mm)
Impeller diameter	12 in. (305 mm)
Weights (approximate)	
Net weight	212 lb. (96 kg)
Shipping weight (includes pallet)	251 lb. (114 kg)

¹ Subject to local/national electrical codes. Recommendation based upon dedicated circuit.

² 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.

3.0 Shipping contents

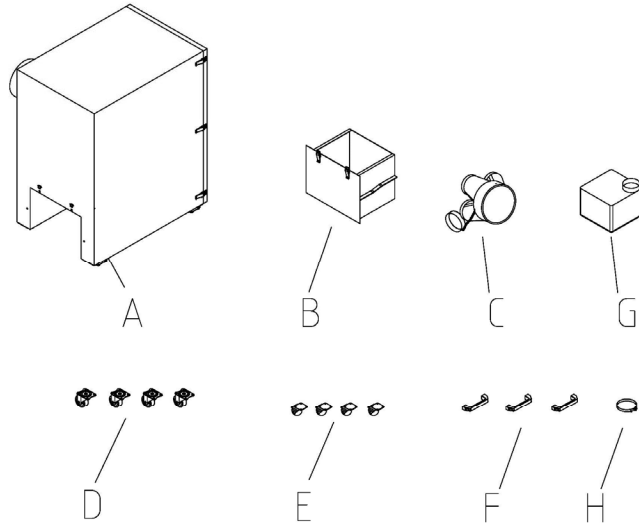


Figure 3-1

No.	Description	Specification	Q'ty	Index in parts list	Part No.
A	Main Housing		1	Index 33	JDC-510-33
B	Debris Drawer		1	Index 30	JDC-510-30
C	Inlet Adaptor		1	Index 26	JDC-510-26
D	Swivel Caster	2-1/2"	4	Index 23	JDC-500032
E	Drawer Caster	2"	4	Index 28	JDC-510-28
F	Handle		3	Index 20	JDC-500019
G	Fireproof Collecting Bag		1	Index 47	JDC-510-47
H	Clamp		1	Index 50	JDC-510-50
	Instructions and Parts List				
	Registration Card				

3.1 Hardware package (part no. JDC-510-HP)

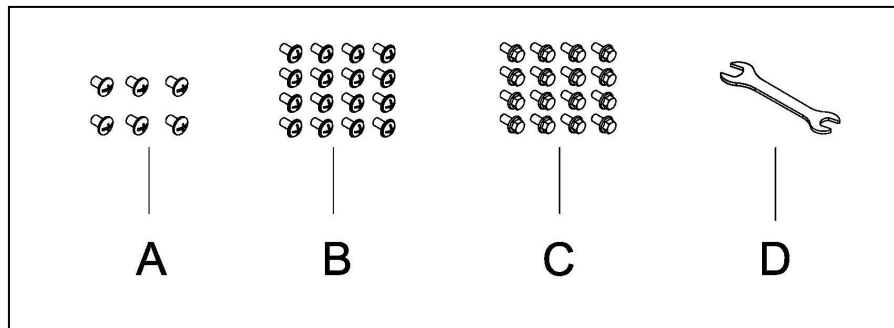


Figure 3-2

No.	Description	Specification	Q'ty	Index in parts list	Part No.
A	Flat Head Machine Screw	1/4"x1/2"	6	Index 19	TS-0813032
B	Pan HD Phillips Machine Screw	M5x10	16	Index 29	TS-1533032
C	Flange Bolt	5/16"x1/2"	16	Index 24	JDC-500031
D	Open End Wrench	10x12mm	1	Index 35	GH1340A-TBCP-16-04

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

4.0 Assembly

⚠WARNING 2-PERSON LIFT.
Failure to comply may cause injury.

The numbers in parentheses match the callout numbers in the Figures and in the parts breakdown.

Refer to Figure 4-1:

1. Carefully place the main collector cabinet (33) upside down on cardboard and install swivel casters (23) onto the corners of the main cabinet and secure each caster using 4 hex flange bolts (24).
2. Install the drawer casters (28) onto the four corners of the debris drawer and secure each caster using 4 Phillips pan head screws (29).
3. Carefully turn the cabinet upright onto the casters.

Refer to Figure 4-2:

4. Install a handle (20) on the main cabinet (33) using flat head screws (19).
5. Unlatch and open door. Slide filter (2) into door and secure in place using the retaining plate buckle (39).
6. Fit the Hose Clamp (50) onto the Fireproof Collecting Bag (47), then use a screwdriver to tighten the clamp.

Refer to Figure 4-3:

7. Push inlet adaptor (26) onto the collector cabinet (33) and secure using the Phillips pan head screw (34).
8. Install a handle (20) on the debris drawer (30) using flat head screws (19).
9. Install the retaining plate (45) with washer (44) and T-screw (46) on both sides of the drawer (30).

Assembly is complete.

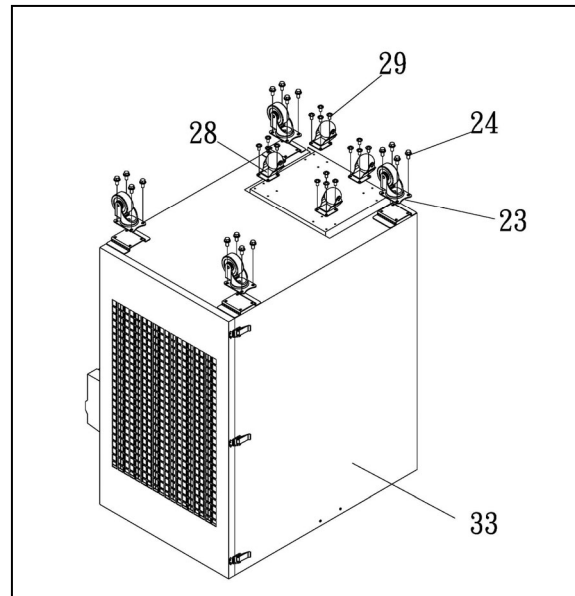


Figure 4-1

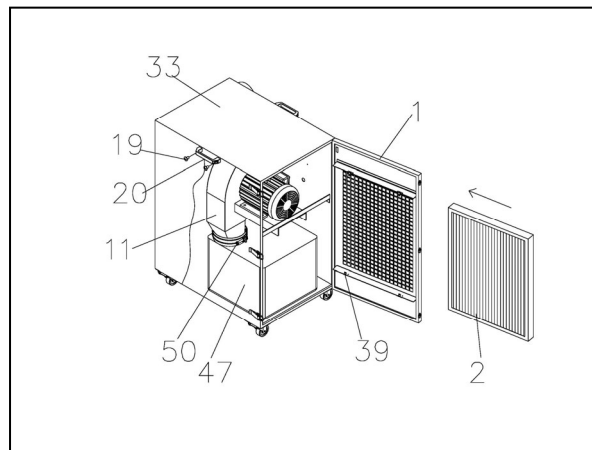


Figure 4-2

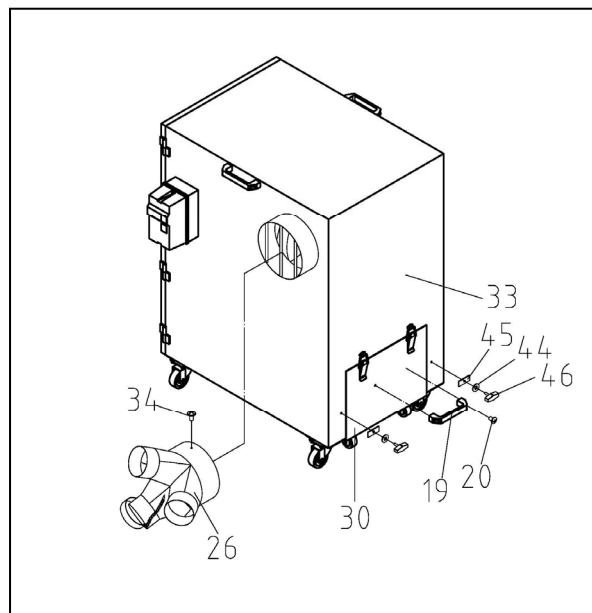


Figure 4-3

5.0 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-510 Dust Collector is rated at 230 volt, single phase only, and is provided with a 6-20P plug designed for use on a circuit with a grounded outlet that looks like the one pictured in Figure 5-1.

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

It is recommended that the JDC-510 be connected to a dedicated minimum 20 amp circuit with circuit breaker or time-delay fuse marked "D". **Local codes take precedence over recommendations.**

5.1 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 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 5-1. 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.

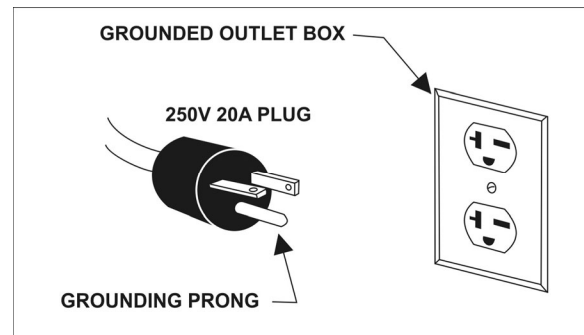


Figure 5-1

5.2 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 2 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	240	50	100	200	300
			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 2

6.0 Operation

⚠WARNING Never mix ferrous and non-ferrous metal dust in the same dust collector. Do not use this machine to collect wood dust.

Connect a hose from the metalworking machine to the port on the dust collector. Secure with a hose clamp (not provided).

If you are connecting the dust collector to a ductwork system, follow approved guidelines and safety measures for the ducting, and familiarize yourself with OSHA and NFPA regulations.

Always install the caps over ports not being used. This will promote more efficient suction, as well as maintain safety in the workshop.

Press the green button to start; red to stop.

NOTE: Do not use this dust collector with surface grinders.

10.0 User-maintenance

⚠WARNING Turn off, disconnect (unplug) the Dust Collector from the power source before cleaning or servicing.

Perform the following on a regular basis. Exact schedules are dependent upon frequency of use.

- Remove the filter from inside the door, and clean it with a vacuum or soft brush.
- Remove and empty collection bag.
- Remove and empty debris drawer; it should not be allowed to exceed 1/3 full.
- Vacuum the fan area on the motor to maintain proper ventilation.

NOTE: Do NOT use compressed air when cleaning, as it may force debris into the motor or other working parts of the machine.

10.2 Additional servicing

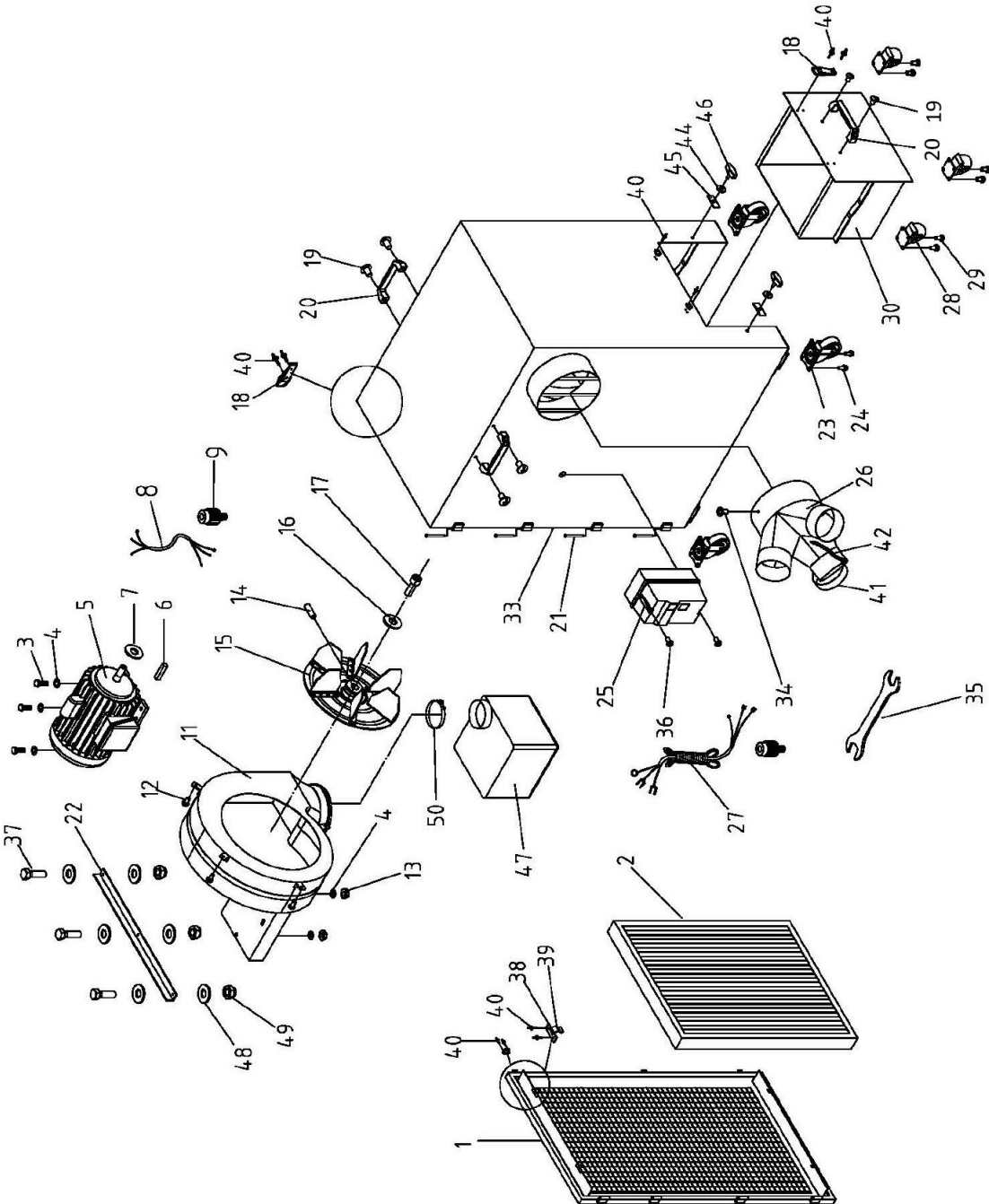
Any additional servicing should be performed by authorized service personnel.

11.0 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.

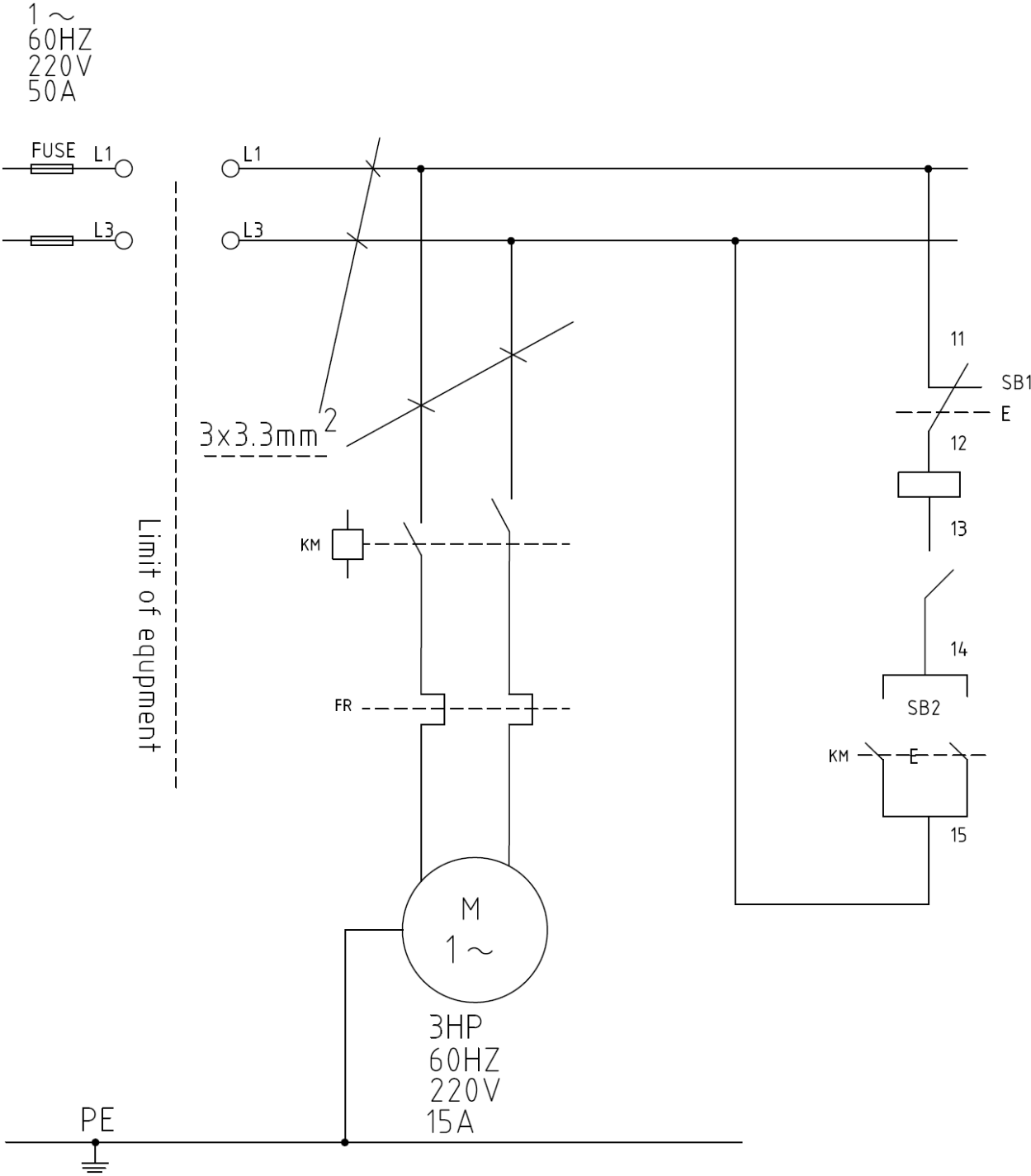
11.1 414900, JDC-510 – Exploded View



11.2 414900, JDC-510 – Parts List

Index No.	Part No.	Description	Size	Qty
1	JDC-510-01	Front door		1
2	414901	Filter		1
3	TS-0051051	Hex Cap Screw	5/16-18 x 1	4
4	TS-0680031	Flat Washer	5/16"	8
5	JDC-510-05	Motor	3HP, 230V, 1PH	1
	JDC-510-05-MF	Motor Fan (not shown)		1
	JDC-510-05-MFC	Motor Fan Cover (not shown)		1
	JDC-510-05-JB	Junction Box with cover (not shown)		1
	JDC-510-05-SC	Start Capacitor	125VAC/600MFD	1
	JDC-510-05-RC	Run Capacitor	350VAC/45µf	1
6	1018634	Key, Dbl Rd Hd	7x7x25mm	1
7	JDC-510-07	Motor Packing (Rubber Seal)		1
8	JDC-510-08	Motor Cord	14 AWGx3C, 2.08mm ²	1
9	JDC-510-09	Strain Relief	PG-20	3
11	JDC-510-11	Fan Housing		1
12	F001236	Pan HD Phillips Machine Screw	5/16-18 x 1/2	5
13	TS-0570021	Hex Nut	5/16-18	4
14	TS-0060071	Hex Cap Screw	3/8-16 x 1/2	1
15	JDC-510-15	Impeller	12"	1
16	JDC-510-16	Flat Washer		1
17	TS-1503051	Socket Head Cap Screw	M6-1 x 20	1
18	JDC-510-18	Latch		5
19	TS-0813032	Flat Head Machine Screw *	1/4-20 x 1/2	6
20	JDC-500019	Handle		3
21	JDC-510-21	Hinge Pin		4
22	JDC-510-22	Motor Bracket		1
23	JDC-500032	Swivel Caster	2-1/2"	4
24	JDC-500031	Flange Bolt *	5/16 x 1/2	16
25	JDC-510-25	Magnetic Switch Assembly	SDE MP-18	1
26	JDC-510-26	Inlet Adaptor	8"→3"x3, Steel	1
27	JDC-510-27	Power Cord w/ 6-20P plug	14 AWGx3C, 2.08mm ²	1
28	JDC-510-28	Debris Drawer Caster	2"	4
29	TS-1533032	Pan HD Phillips Machine Screw *	M5x10	16
30	JDC-510-30	Debris Drawer		1
33	JDC-510-33	Main Collector Housing		1
34	JDC-500017	Pan HD Phillips Machine Screw	3/16-18x3/8	1
35	GH1340A-TBCP-16-04	Open End Wrench *	10/12 mm	1
36	JDC-510-36	Pan HD Phillips Machine Screw	3/16-18 x 3/4	2
37	TS-1482041	Hex Cap Screw	M6x20	3
38	JDC-510-38	Retaining Plate Mount		4
39	JDC-510-39	Retaining Plate Buckle		4
40	JDC-510-40	Rivet	4-3	28
41	JDC-510-41	Inlet Adaptor Cap	Steel	2
42	JDC-510-42	Chain		2
44	TS-0680021	Flat Washer	1/4"	2
45	JDC-510-45	Retaining Plate		2
46	JDC-510-46	Wing Screw	M6	2
47	414902	Fireproof Collection Bag		1
48	TS-0680021	Flat Washer	1/4"	6
49	TS-1541021	Hex Nut Nylon Lock	M6	3
50	JDC-510-50	Clamp		1
	JET-165	JET logo plaque (not shown)	165 x 68mm	1
	JDC-510-ID	ID with Warning Label (not shown)		1
	JDC-510-HP	Hardware Package (includes items marked with *)		

12.0 JDC-510 Wiring Diagram



13.0 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.