



# Operating Instructions and Parts Manual Variable Speed Mill-Drill Machines

Models: JMD-45VSPF, JMD-45VSPFT



JMD-45VSPFT (tapping model) shown

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## 1.0 IMPORTANT SAFETY INSTRUCTIONS

### WARNING – To reduce risk of 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 mill-drill machine is designed and intended for use by properly trained and experienced personnel only. The manual is not, nor was it intended to be, a training manual. If you are not familiar with the proper and safe operation of a mill-drill, do not use until proper training and knowledge have been obtained.
5. Do not use this mill-drill 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.
6. Always wear protective eye wear when operating machinery. Eye wear shall be impact resistant, protective safety glasses with side shields which comply with ANSI Z87.1 specifications. Use of eye wear which does not comply with ANSI Z87.1 specifications could result in severe injury from breakage of eye protection. (Everyday eyeglasses only have impact resistant lenses; they are NOT safety glasses.)
7. Before operating this machine, remove tie, rings, watches and other jewelry, and roll sleeves up past the elbows. Do not wear loose clothing. Confine long hair. Non-slip footwear or anti-skid floor strips are recommended. Do not wear gloves.
8. Wear ear protectors (plugs or muffs) if sound exceeds safe levels.
9. Make certain the switch is in the OFF position before connecting the machine to the power supply.
10. Make certain the machine is properly grounded.
11. Make all machine adjustments or maintenance with the machine unplugged from the power source.
12. 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.
13. 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.
14. 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.
15. Provide for adequate space surrounding work area and non-glare, overhead lighting.
16. Keep the floor around the machine clean and free of scrap material, oil and grease.
17. Keep visitors a safe distance from the work area. Keep children away.
18. Make your workshop child proof with padlocks, master switches or by removing starter keys.
19. Give your work undivided attention. Looking around, carrying on a conversation and "horse-play" are careless acts that can result in serious injury.
20. Maintain a balanced stance at all times so that you do not fall into the blade or other moving parts. Do not overreach or use excessive force to perform any machine operation.
21. 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.
22. Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
23. Use recommended accessories; improper accessories may be hazardous.
24. Maintain tools with care. Keep cutters sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.
25. Turn off the machine before cleaning. Use a brush to remove chips or debris — do not use bare hands. Do not use compressed air for cleaning.
26. Do not stand on the machine. Serious injury could occur if the machine tips over.

27. Never leave the machine running unattended. Turn the power off and do not leave the machine until it comes to a complete stop.
28. Remove loose items and unnecessary work pieces from the area before starting the machine.
29. Do not perform any setup work while machine is operating.
30. Do not place hands near cutter while machine is operating.
31. Don't use in dangerous environment. Don't use power tools in damp or wet location, or expose them to rain. Keep work area well lighted.
32. All work shall be secured using either clamps or a vise to the drill press table. It is unsafe to use your hands to hold any workpiece being drilled.
33. Use proper extension cord. Make sure your extension cord is in good condition. When using an extension cord, use one 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. Sect. 6.3, Table 2 shows correct size to use depending upon cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

**⚠ 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, and ethylbenzene which is known to the State of California to cause cancer. 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:**



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



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

**1.1 Switch lock-out**

To prevent unauthorized use or accidental starting of the Mill-Drill, install a padlock (not provided) into the on/off switch at rear of control box. Push tab into switch until holes align and insert padlock through holes. See Figure 1-1. Store key in a secure place.

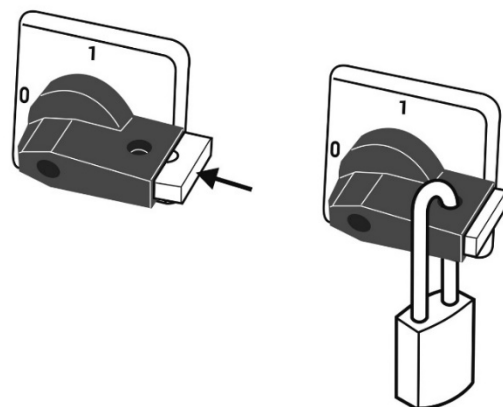


Figure 1-1

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## 3.0 About this manual

This manual is provided by JET, covering the safe operation and maintenance procedures for the JET JMD-45VS series variable speed Mill-Drills. 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 the instructions as set forth in this document.

This manual is not intended to be a training guide for milling/drilling operations, or tool and workpiece selection. Consult a machinery handbook or shop supervisor for information on proper speed and feed rates for specific materials, or type of cutter or drill suitable for a particular operation. Whatever accepted methods or materials are used, always make personal safety a priority.

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/warranty/registration/>

## 4.0 Specifications

Table 1

| Model number                             | <b>JMD-45VSPF</b>                                     |                  | <b>JMD-45VSPFT</b> |
|--|---|------------------|--------------------|
| Stock number                             | 351050  |                  | 351051             |
| <b>Motor and Electricals</b>             |   |                  |                    |
| Motor type                               | Totally-enclosed, fan-cooled, induction               |                  |                    |
| Horsepower                               | 1.5 HP (1.1 kW)                                       |                  |                    |
| Motor Phase                              | 3   |                  |                    |
| Motor Voltage                            | 230V  |                  |                    |
| Input Voltage                            | <b>single phase, 115V or 230V (prewired for 115V)</b> |                  |                    |
| Cycle                                    | 60 Hz   |                  |                    |
| Listed FLA (full load amps)              | 11/5.5 A  |                  |                    |
| Starting amps                            | 26 A  |                  |                    |
| Running amps (no load)                   | 1.2 A   |                  |                    |
| Motor speed                              | 1720 RPM  |                  |                    |
| Motor cord                               | SJT 4/C 14AWG 300V, 6 ft.                             |                  |                    |
| Power cord                               | SJT 3x3.31mm <sup>2</sup> 12AWG 300V, 6 ft.           |                  |                    |
| Power plug                               | Not included  |                  |                    |
| LED work lamp                            | 12V, 6W; separate 115V power cord SJT 3x18AWG, 6 ft.  |                  |                    |
| Recommended circuit size <sup>1</sup>    | 15A   |                  |                    |
| Sound emission without load <sup>2</sup> | 70dB  |                  |                    |
| <b>Capacities</b>                        |   |                  |                    |
| Spindle taper                            | R8  |                  |                    |
| Spindle rotation                         | Forward/Reverse                                       |                  |                    |
| Drilling capacity                        | Mild steel  | 1-1/4 in. (32mm) |                    |
|  | Cast iron   | 1-1/2 in. (38mm) |                    |
| Tapping capacity                         | Mild steel  | n/a              | 13/16 in. (20mm)   |
|  | Cast iron   | n/a              | 13/16 in. (20mm)   |
| Face mill capacity                       | Ø 4 in. (100mm)                                       |                  |                    |
| End mill capacity                        | Ø 3/4 in. (20mm)                                      |                  |                    |
| Swing                                    | 19-11/16 in. (500mm)                                  |                  |                    |
| Max. distance spindle to table           | 18-1/8 in. (460mm)                                    |                  |                    |
| Spindle travel                           | 4-1/4 in. (107mm)                                     |                  |                    |
| Number of spindle speeds                 | Variable  |                  |                    |
| Range of spindle speeds                  | 50-350 and 350-2500 RPM                               |                  |                    |
| Number of power feeds                    | 3   |                  |                    |
| Range of power feeds                     | 0.005, 0.007, 0.010 in. (0.12/0.18/0.2mm)             |                  |                    |
| Head swivel                              | 90 deg. left, 30 deg. right                           |                  |                    |
| Max. table longitudinal travel           | 20-1/2 in. (520mm)                                    |                  |                    |
| Max. table cross travel                  | 8-1/4 in. (210mm)                                     |                  |                    |
| <b>Main materials</b>                    |   |                  |                    |
| Column                                   | Cast iron   |                  |                    |
| Table                                    | Cast iron, ground surface                             |                  |                    |
| Head                                     | Cast iron   |                  |                    |
| <b>Dimensions</b>                        |   |                  |                    |
| Quill diameter                           | 3 in. (75mm)  |                  |                    |
| Table working surface (LxW)              | 32-1/4 x 9-1/2 in. (820 x 240mm)                      |                  |                    |
| Number of T-slots                        | 4   |                  |                    |
| T-slot size (WxD)                        | 5/8 x 1 in. (16 x 26mm)                               |                  |                    |
| Base dimensions                          | 26-11/16 x 15-15/16 in. (653 x 405mm)                 |                  |                    |
| Overall assembled (LxWxH)                | 29 x 36 x 50 in. (736 x 914 x 1270 mm)                |                  |                    |
| Shipping dimensions (LxWxH)              | 36 x 30 x 52 (915 x 763 x 1320 mm)                    |                  |                    |

|                 | JMD-45VSPF      | JMD-45VPFT      |
|-----------------|-----------------|-----------------|
| <b>Weights</b>  |                 |                 |
| Net weight      | 761 lb (345 kg) | 767 lb (348 kg) |
| Shipping weight | 827 lb (375 kg) | 833 lb (378 kg) |

<sup>1</sup> subject to local and 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.

L = length, W = width, H = height, D = depth

n/a = not applicable

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.

#### 4.1 Mounting hole centers

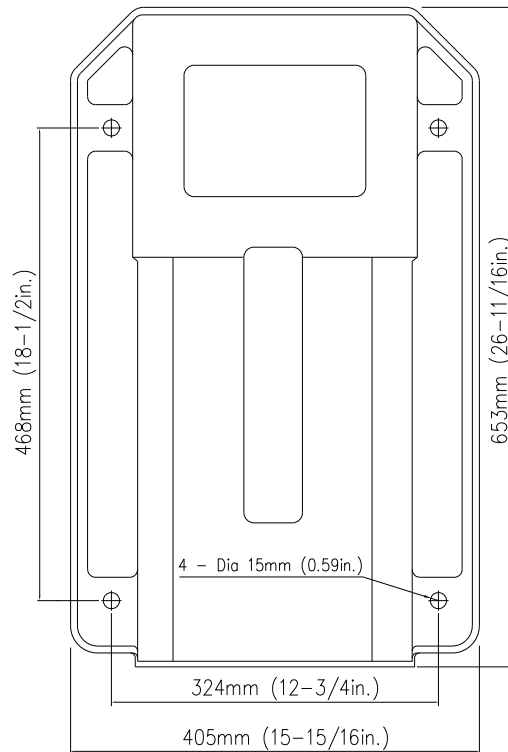


Figure 4-1: mounting holes for JMD-45VS series

**⚠WARNING** Read and understand all assembly and setup instructions before attempting assembly. Failure to comply may cause serious injury.

## 5.0 Setup and assembly

### 5.1 Shipping contents

See Figure 5-1

- 1 Mill-Drill (not shown)
- 2 Drill arbor (*pre-installed*)
- 1 Draw bar R8-7/16 in. (*pre-installed*)
- 3 Handwheels – A
- 1 Face mill cutter assembly 3in. (74mm) – B
- 1 Face mill cutter arbor – C
- 4 Small handles – D
- 1 Crank handle – E
- 1 Drill chuck with key 13mm/JT6 – G
- 1 Socket wrench – H
- 1 Box wrench 17/19mm – H1
- 3 Hex wrenches, 3/4/5mm – J
- 1 Hardware package (see sect. 12.1.2):
  - 2 Bolts – K
  - 2 Flat washers – L
  - 2 Hex nuts – M
- 1 Socket hd cap screw 3/8x1 – N
- 1 Flat washer 3/8 – O
- 1 Angle vise 3-inch – P
- 1 Plum wrench – Q
- 1 Operating instructions and parts list
- 1 Product registration card

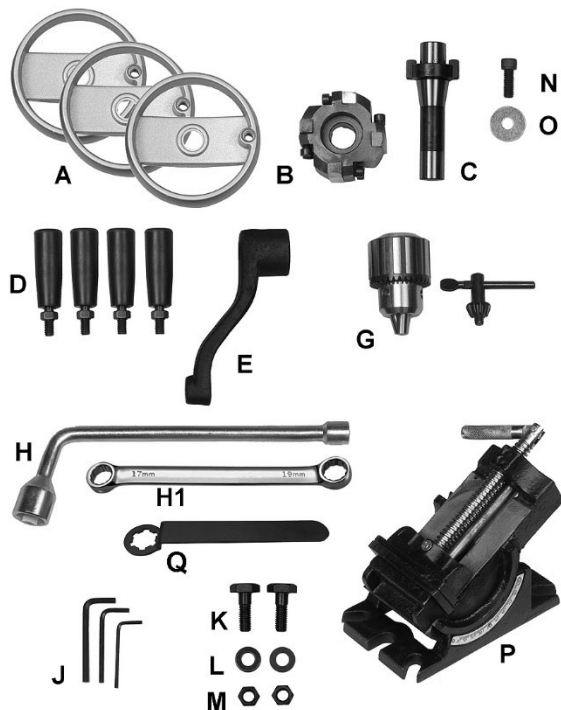


Figure 5-1: contents (not to scale)

### 5.2 Tools required for assembly

Cross-point (Phillips) screwdriver  
 14mm open-end (or adjustable) wrench  
 3mm and 5mm hex wrenches (provided)

### 5.3 Unpacking and cleanup

1. Inspect contents for shipping damage. Report damage, if any, to your distributor. Do not discard shipping materials until Mill-Drill is installed and running properly.
2. Compare contents of shipping carton with the contents list in this manual. Report shortages, if any, to your distributor. Note: Check machine first in case some parts are pre-installed.
3. Remove rust protectant from exposed surfaces with a clean rag and cleaner/degreaser or kerosene. Avoid getting solvents on rubber or plastic parts.
4. Apply a light coat of oil to exposed metal surfaces to inhibit rust.

### 5.4 Location

**⚠WARNING** Machine is heavy; use appropriate lifting device and exercise caution when moving to final location. Failure to comply may cause serious injury.

1. The location for the mill-drill should be dry, with good overhead lighting and room enough for maximum table travel, loading and offloading of stock, and general maintenance.
2. Before bolting mill-drill to a bench or stand, the unit must be level: Place a level on table in both directions. If table is not level, shim under the low corner(s) until level. Tighten fastening bolts. (See Figure 4-1 for mounting hole spacing.)
3. Check for level again. Adjust as necessary until mill-drill is level after fastening hardware has been tightened.

NOTE: An optional stand is available from JET, see sect. 11.0.

### 5.5 Assembly

See Figure 5-1 to identify parts.

1. Slide crank (E) onto shaft of column (see Figure 7-2) and tighten set screw. Make sure set screw seats on flat part of shaft.
2. Thread small handle (D) into crank and tighten nut.
3. Slide handwheels (A) onto shafts at front and both ends of table. If needed, tap with rubber mallet to seat handwheels onto shafts. Tighten set screws.
4. Thread a small handle (D) onto each handwheel and tighten nut.



- Loosen lock handles (R, Figure 7-2) and raise head by turning crank (E) clockwise to remove shipping block from table.

## 5.6 Lubrication

The Mill-Drill must be checked for proper lubrication before operating. See *sect. 9.3*.

## 6.0 Electrical connections

**⚠WARNING** Electrical connections must be made by a qualified electrician in compliance with all relevant codes. This machine must be properly grounded to help prevent electrical shock and possible fatal injury.

The Mill-Drill will operate on single phase, 115 or 230-volt incoming power. It is prewired for 115-volt. This machine uses an inverter to provide infinitely variable spindle speeds within the specified ranges. The inverter controls the speed of the motor by varying the frequency of the voltage supplied to the motor.

The Mill-Drill is not provided with a power plug; it is recommended that the machine be “hardwired” directly to a service panel (make sure a disconnect is available to the operator). The user also has the option of attaching an appropriate electrical plug.

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

It is recommended that the Mill-Drill be connected to a dedicated 15 amp circuit with circuit breaker or fuse. **NOTE: Local codes take precedence over recommendations.**

### 6.1 GROUNDING INSTRUCTIONS

This machine must be grounded. 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. If a plug is installed, it must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

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.

**If hardwired:**

Permanently connected tools: This tool should be connected to a grounded metal permanent wiring system; or to a system having an equipment-grounding conductor.

**If used with a plug:**

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

This tool may be used on a circuit that has an outlet that looks like the one illustrated in **A**, Figure 6-1. The tool is to be used with a grounding plug that looks like the plug illustrated in **A**. Make sure the tool is connected to an outlet having the same configuration as the plug. An adapter, shown in **B** and **C**, may be used to connect the 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. 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. **Note: In Canada, the use of a temporary adaptor is not permitted by the Canadian Electrical Code, C22.1.**

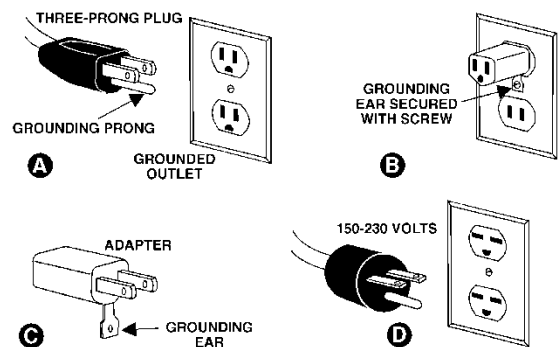


Figure 6-1

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

This tool may be used on a circuit that has an outlet that looks like the one illustrated in **D**, Figure 6-1. The tool is to be used with 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.

## 6.2 Voltage conversion

To convert machine to 230 volt input operation:

1. See Figure 6-2. Remove control box panel and change wire connections for the PC Board (A); Digital Readout (B); and Transformer (C).

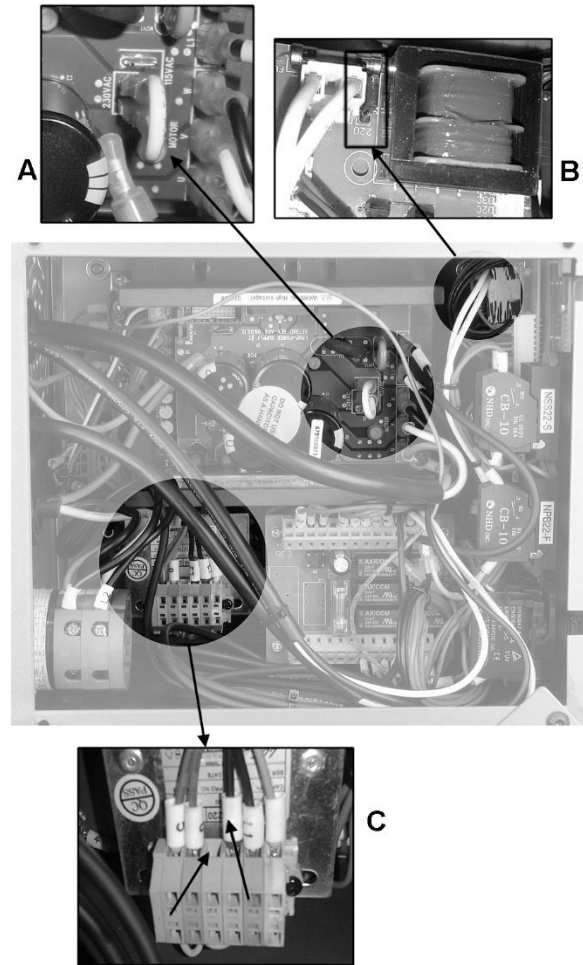


Figure 6-2: Voltage conversion

2. Hardwire the machine to the service panel in accordance with the new voltage, or replace plug on end of motor cord with an appropriate plug for 230-volt operation.
3. Install control box panel.

## 6.3 Extension cords

The use of extension cords is discouraged; try to position equipment within reach of the power source. 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.

| Ampere Rating |               | Volts | Total length of cord in feet |     |                 |     |
|---------------|---------------|-------|------------------------------|-----|-----------------|-----|
| More Than     | Not More Than | 120   | 25                           | 50  | 100             | 150 |
|               |               | 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 |     |

Table 2: Extension Cord Recommendations

## 7.0 Adjustments

**⚠WARNING** Disconnect machine from power source before making adjustments, unless indicated otherwise.

### 7.1 Removing and installing arbors

1. Disconnect machine from power source.
2. Remove spindle cap to expose drawbar (Figure 7-1)
3. Place speed lever (see D, Figure 8-1) to low speed range (black).
4. Loosen drawbar with provided socket wrench counterclockwise 2 or 3 full turns.

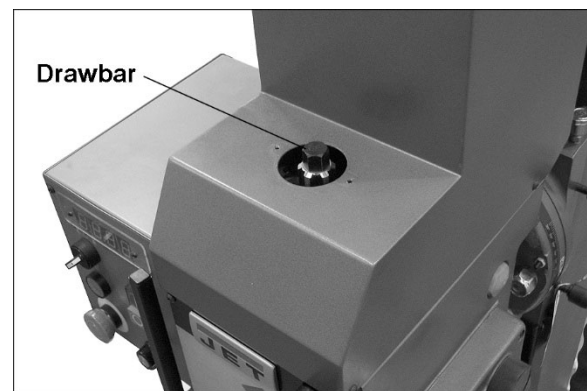


Figure 7-1

5. Tap drawbar head with rubber mallet to dislodge arbor.

**⚠CAUTION** Do not loosen drawbar more than 3 or 4 turns before hitting with rubber mallet, or damage to drawbar threads may occur.

- Grasp arbor with one hand while loosening drawbar with the other. Continue to loosen drawbar until arbor can be withdrawn from spindle. Wipe out spindle with clean, dry rag.
- Wipe new arbor with clean, dry rag and push arbor into spindle. Thread drawbar into arbor from above. Tighten drawbar with wrench. Do not overtighten.

## 7.2 Head adjustments

See Figure 7-2.

### 7.2.1 Head elevation

Loosen two handles (R). Turn crank handle (E) clockwise to raise head on column, counterclockwise to lower. Always tighten handles securely before milling or drilling operations.

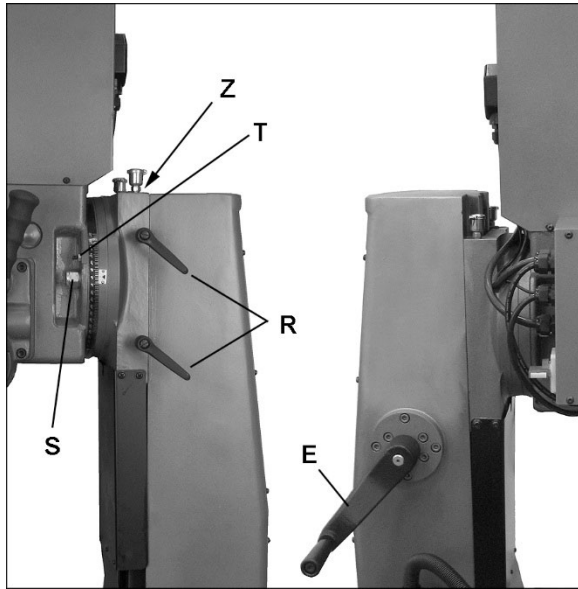


Figure 7-2: head adjustments

### 7.2.2 Head swivel

- To swivel head up to 90° left or 30° right, loosen lock nut (S) on each side, and remove locating pin (T).
- Swivel head to desired angle on scale. Retighten *both* lock nuts (S).
- When returning head to vertical position (0-deg.), re-insert locating pin (T) and securely tighten both lock nuts (S).

## 7.3 Table adjustments

See Figure 7-3.

For X-axis longitudinal feed, loosen table locks (L<sub>1</sub>) and use side handwheel (L<sub>2</sub>). The cross feed table locks (C<sub>1</sub>) should be kept tight.

For Y-axis cross feed, loosen table locks (C<sub>1</sub>) and use front handwheel (C<sub>2</sub>). The longitudinal feed table locks (L<sub>1</sub>) should be kept tight.

The scales can be adjusted by loosening screw (T<sub>1</sub>) and rotating scale to align with indicator.

The stops (T<sub>2</sub>) can be adjusted to any point along the longitudinal axis. Retighten screws after positioning.

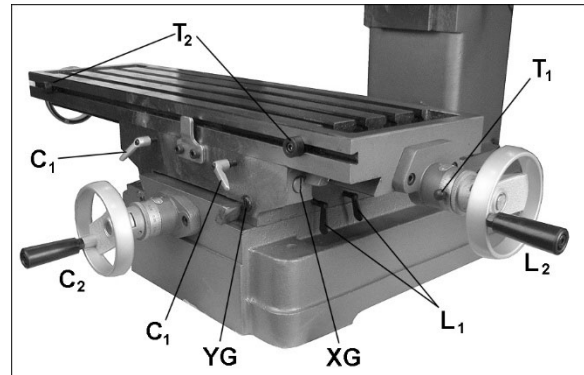


Figure 7-3: table and gib adjustments

## 7.4 Gib adjustments

### 7.4.1 Table gibs

See Figure 7-3.

Gibs have been properly adjusted by the manufacturer. After a period of time, however, movement of the table over the ways will cause normal wear and some “play” between components. To adjust gibs to eliminate this play, proceed as follows.

- The X-axis gib adjustment screw (XG, Figure 7-3) is found on right side of saddle beneath table. The Y-axis gib adjustment screw (YG, Figure 7-3) is found to the right on the table face.
- Turn each screw slightly clockwise to tighten. Turn table handwheels to check tension; slight drag should be felt during movement.
- Re-adjust as required.

### 7.4.2 Column gib

A Z-axis gib adjustment screw is located atop the square column near oil cup (see Z, Figure 7-2). Follow same principle as described under *sect. 7.4.1*. Slight drag should be felt when turning crank handle.

## 7.5 Spindle return

The spindle return is pre-set by the manufacturer and should not require adjustment. If spring tension becomes a future issue due to wear, proceed as follows.

See Figure 7-4.

- Loosen knob (A) just enough to rotate spring cap (B) past pin (C) and settle it on the next notch. **DO NOT** remove spring cap or allow it to rotate freely in your hand, or spring may unwind.
- Rotate spring cap *clockwise* to decrease spring tension; *counterclockwise* to increase.

3. Tighten knob (A).

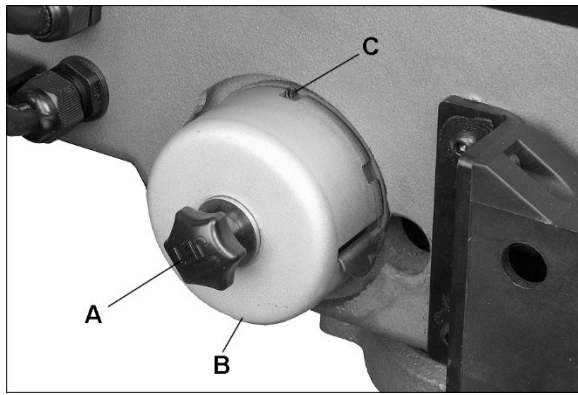


Figure 7-4: spindle return spring adjustment

## 8.0 Operation

### 8.1 Operating controls

Refer to Figures 8-1 and 8-2.

#### Depth stop and scale.

*All models:* Turn scale ring (A<sub>1</sub>) until desired depth on scale aligns with indicator. Tighten lock handle (A<sub>2</sub>).

*JMD-45VSPFT only:* Use above procedure for general drilling and powerfeed operation. For tapping procedures use front depth stop system – turn knurled knob (A<sub>3</sub>) until pointer (A<sub>4</sub>) reaches desired mark on scale.

**Downfeed handle (B).** Counterclockwise movement advances quill toward table. When released, return spring retracts quill. CAUTION: Handle will spring back if released, and will rotate during retraction.

**Spindle lock handle (C).** Turn clockwise to lock spindle in position, counterclockwise to release.

**Speed Lever (D).** Select speed according to chart on control plate. A similar chart is shown as Table 3. While moving speed lever, turn spindle by hand to ensure proper gear engagement.

**CAUTION** Spindle rotation must be stopped before changing speed range. Failure to comply may damage gear mechanism.


| RPM      | Lever position  |
|----------|---|
| 50-350   |  black |
| 350-2500 |  red   |

Table 3: speed selection

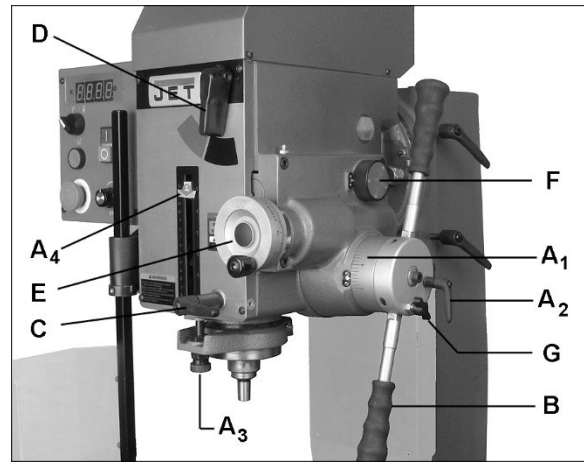


Figure 8-1: operating controls (tapping model 45VSPFT shown)

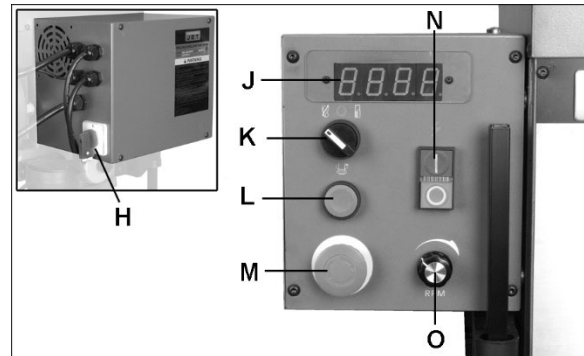


Figure 8-2: control box (model 45VSPFT shown; controls arranged differently on non-tapping model)

**Fine feed handwheel (E).** To engage, turn downfeed dial (F) to "0", loosen knob (G), and push feed handle (B) away from head.

**Downfeed dial (F).** Select among three feed rates. Must be set to "0" when using fine feed handwheel.

**Powerfeed disengagement knob (G).** Tighten to prevent powerfeed engagement and fine feed engagement. Loosen to allow downfeed handles (B) to be pushed outward into powerfeed and fine feed position.

**On/off switch (H).** Activates electrical power to machine; digital readout (J) will illuminate. Switch can be locked out to prevent unauthorized operation; see sect. 1.1.

**Digital readout (J).** Shows spindle RPM (revolutions per minute).

#### Selector switch (K).

*45VSPF only:* Selects spindle rotation direction. Center is neutral position – no rotation.

*45VSPFT only:* Selects drill or tap mode. Center is neutral position – no rotation.

**Reverse spindle (L).** *JMD-45VSPFT only.* If tapping is interrupted, press button to reverse tap from workpiece.

**Emergency stop (M).** Push to stop all machine functions. To restart, rotate E-stop button clockwise until it disengages. Note: It is recommended that start/stop button (N) be used for normal spindle stoppage to prevent unnecessary wear on E-stop.

**Spindle start/stop (N).** Activates spindle rotation.

**Spindle speed (O).** Sets spindle rotation speed within the pre-selected range.

## 8.2 Powerfeed operation

**CAUTION** Turn machine OFF before selecting speed and initial powerfeed settings. Failure to comply may damage gear mechanism.

See Figures 8-1 and 8-2.

1. Turn off machine – spindle stopped.
2. Disengage spindle lock (C).
3. Select appropriate spindle speed range (D).
4. Select downfeed rate (F).
5. Loosen handle (A<sub>2</sub>) and rotate collar (A<sub>1</sub>) counterclockwise to desired depth on scale.  
OR... lower spindle to desired depth and set collar (A<sub>1</sub>) to zero on scale.
6. Tighten handle (A<sub>2</sub>) to secure setting.
7. Loosen powerfeed disengagement knob (G).
8. Turn on spindle and adjust speed dial (O) to desired RPM.
9. Pull downfeed handle (B) away from head to activate power downfeed.
10. Once downfeed has reached pre-set depth, the trip will release and spindle will retract.
11. To stop feed before cycle has ended, push handle (B) toward head.

NOTE: Set downfeed dial (F) to “0” when not using powerfeed.

## 8.3 Manual coarse feed

See Figures 8-1 and 8-2:

1. Turn off machine – spindle stopped.
2. Disengage spindle lock (C).
3. Set feed rate to “0” on dial (F).
4. Select spindle speed range (D).
5. Set drill depth (A<sub>1</sub>/A<sub>2</sub>).
6. Tighten powerfeed disengagement knob (G) to prevent auto downfeed engagement.
7. Turn on spindle and adjust speed dial (O) to desired RPM.
8. Engage workpiece using downfeed handle (B). Feed will stop at preset depth.

## 8.4 Manual fine feed

See Figures 8-1 and 8-2:

1. Turn off machine – spindle stopped.
2. Disengage spindle lock (C).
3. Set feed rate to “0” on dial (F).
4. Select spindle speed range (D).
5. Set drill depth (A<sub>1</sub>/A<sub>2</sub>).
6. Turn on spindle and adjust speed dial (O) to desired RPM.
7. Pull handle (B) into powerfeed position.
8. Turn fine feed handwheel (E) to accomplish operation. Fine feed scale is 0.001 inch graduations. If depth reaches pre-set stop, fine feed will disengage and spindle will retract. CAUTION: Downfeed handle (B) will rotate during retraction.

NOTE: To disengage fine feed at any time during operation, push handle (B) toward head.

## 8.5 Tapping procedure (45VSPFT only)

Use one of the above methods to first bore the pilot hole. **IMPORTANT:** Appropriate tap feed/speed is determined by multiple factors, such as workpiece material, drill size and type of tap. Consult a machinist’s handbook or the tap manufacturer for specific recommendations.

1. Turn off machine – spindle stopped. Insert tap into chuck.
2. Disengage spindle lock (C).
3. Select tapping mode (K) and set feed rate (F) to 0.001.
4. Select low speed range (D).
5. Set depth scale (A<sub>3</sub>/A<sub>4</sub>) to desired stop. Make sure scale ring system (A<sub>1</sub>/A<sub>2</sub>) has been set to zero to prevent interference with downfeed.
6. Turn on spindle and adjust speed dial (O) to low RPM.
7. Pull handles (B) into powerfeed position. When tap reaches selected depth, spindle will reverse and retract tap from hole.

## 8.6 Basic milling procedure

The Mill-Drill is provided with a face mill cutter with tungsten carbide inserts. Install cutter onto mill arbor, and secure with socket cap screw and washer (N and O, Figure 5-1). Install arbor into spindle using procedure in sect. 7.1.

For best results, all milling operations should be performed with cutter raised as close to head assembly as possible.

1. Turn off machine – spindle stopped.
2. Adjust depth stop to highest position.
3. Engage fine feed handwheel, and turn it to set milling height.
4. Tighten spindle lock (C, Figure 8-1) at desired height.

**⚠WARNING** Lock spindle in position before attempting milling operations.

5. Select speed range (D).
6. Turn on spindle and adjust speed dial (O) to desired RPM.
7. Perform cutting procedure by moving table(s) as needed according to *sect. 7.3*.

## 9.0 User-maintenance

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

## 9.1 General maintenance

1. After each use, wipe down machine with a clean rag and apply a light coat of oil to exposed metal surfaces.
2. Periodically check for backlash, or “play”, in table and head movements. If handles or handwheels are turned an appreciable amount before they seem to engage, or there is a looseness in table or head movements, make adjustments using gib screws. See *sect. 7.4*.
3. Keep table and ways clean and free of debris. Use a brush to clear shavings, not bare hands.
4. Make sure machine remains properly lubricated. See *sect. 9.3*.

## 9.2 Additional servicing

Any additional servicing should be performed by authorized service personnel.

### 9.3 Lubrication

Note: Spindle bearings are sealed and do not require further lubrication.

| Location (see Figure 13-1)  | Recommended lubricant<br>(an equivalent may be used) | Frequency  |
|---|--|--|
| Ball oiler, handwheels (L <sub>1</sub> )  | Mobil DTE® Oil Heavy Medium                          | Once daily   |
| Ball oiler, front of table (L <sub>2</sub> )  | Mobil DTE® Oil Heavy Medium                          | Once daily   |
| Ball oiler for powerfeed (L <sub>3</sub> )  | Mobil DTE® Oil Heavy Medium                          | Once daily   |
| Table ways (L <sub>4</sub> )  | Mobil DTE® Oil Heavy Medium                          | Once daily (move table along both axes to distribute oil)  |
| Oil cups for column ways (L <sub>5</sub> )  | Mobil DTE® Oil Heavy Medium                          | Once daily   |
| Oil fill hole for gearbox (L <sub>6</sub> )   | Mobil DTE® Oil Heavy Medium                          | Periodically check sight glass (L <sub>66</sub> ); top off to half-way mark. Completely drain and refill once a year (drain plug beneath head) |
| Cross & Longitudinal leadscrews (L <sub>7</sub> )<br><i>(move table forward and remove way cover to access cross leadscrew)</i> | Mobilith® AW2  | As needed<br>(especially if table travel is not smooth)  |
| Gear and rack (L <sub>8</sub> )<br><i>(remove upper back panel)</i>   | Mobilith® AW2  | As needed<br>(especially if head is difficult to raise)  |
| Return spring (L <sub>9</sub> )<br><i>(loosen cover – do NOT remove – and apply with squirt can or brush)</i>                   | SAE 20   | Once annually  |

Table 4

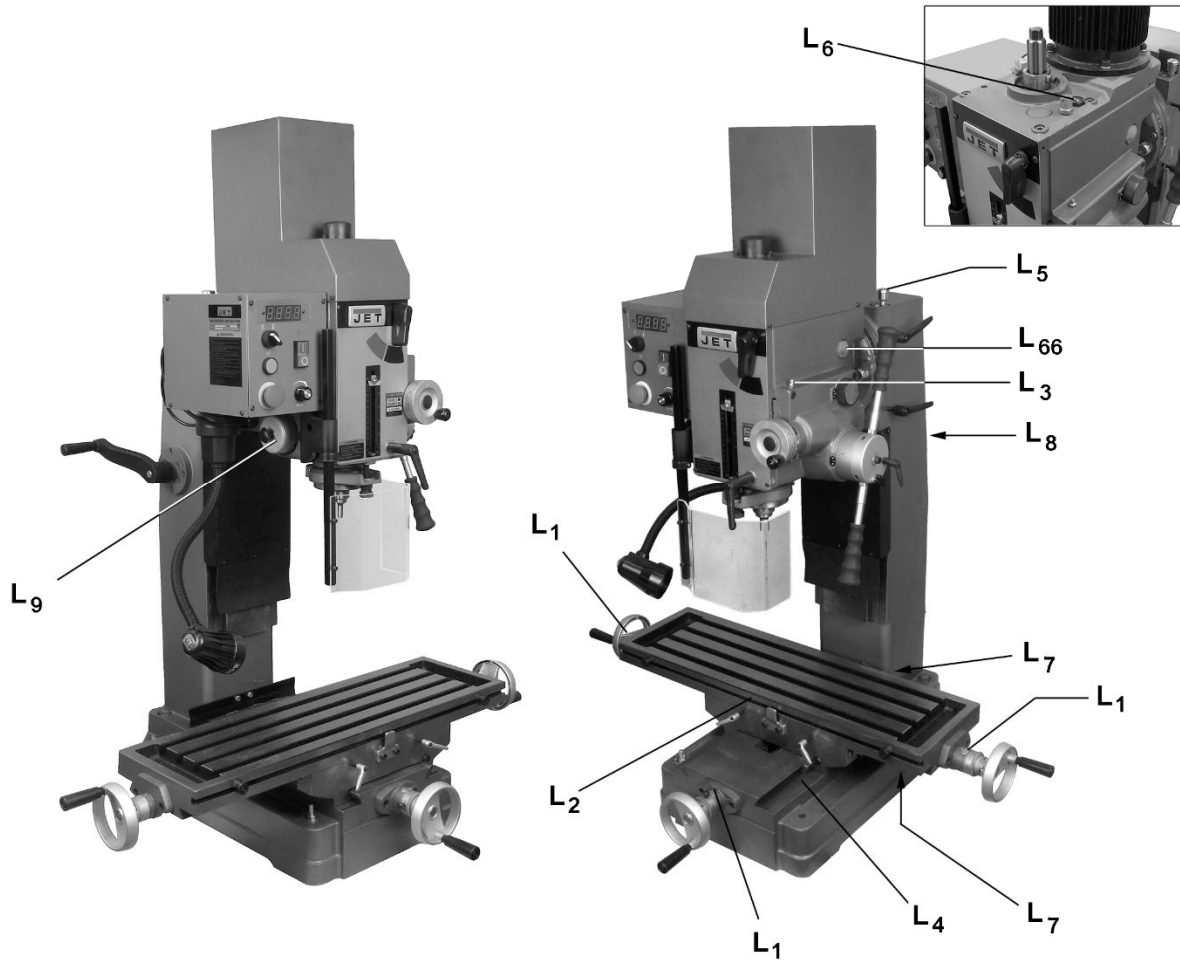


Figure 9-1: lubrication areas

## 10.0 Troubleshooting JMD-45VS series Mill-Drills

Table 5

| Symptom  | Possible Cause   | Correction*   |
|--|--|---|
| Motor will not start.                                      | Low voltage.   | Check power line for proper voltage.  |
|  | Open circuit in motor or loose connection.                           | Inspect all lead connections on motor for loose or open connections.                |
|  | Switch failure.  | Inspect switch, replace if needed.  |
|  | Motor fault.   | Repair or replace motor.  |
| Motor will not start: fuses blow or circuit breakers trip. | Short circuit in line cord or plug.                                  | Inspect cord or plug for damaged insulation and shorted wires.                      |
|  | Short circuit in motor or loose connections.                         | Inspect all connections on motor for loose or shorted terminals or worn insulation. |
|  | Incorrect fuses or circuit breakers in power line.                   | Install correct fuses or circuit breakers.  |
|  | Drawing higher amperage than plug can supply.                        | Install proper plug, or hardwire machine to service panel.                          |
|  | Incorrect power supply.  | Confirm that incoming power matches characteristics of machine.                     |
| Motor overheats.   | Motor overloaded.  | Decrease feed pressure to reduce load on motor.                                     |
|  | Air circulation through motor is restricted.                         | Clean motor fan with compressed air to restore normal air circulation.              |
|  | Prolonged operation at higher speeds.                                | Allow machine to cool.  |
|  | Motor fault.   | Repair or replace motor.  |
| Motor stalls, or doesn't build to normal operating speed.  | Motor overloaded.  | Reduce feed rate.   |
|  | Dull drill bit or mill cutter.                                       | Keep tools sharp.   |
|  | Short circuit in motor or loose connections.                         | Inspect connections on motor for loose or shorted terminals or worn insulation.     |
|  | Low voltage.   | Correct the low voltage conditions.   |
|  | Incorrect fuses or circuit breakers in power line.                   | Install correct fuses or circuit breakers.  |
|  | Motor fault.   | Repair or replace motor.  |
| Spindle turns, but with loss of power.                     | Applying too much downfeed pressure.                                 | Slow downfeed.  |
|  | Low voltage.   | Correct the low voltage conditions.   |
|  | Motor fault.   | Repair or replace motor.  |
| Spindle/bearing runs hot.                                  | Prolonged operation at higher speeds.                                | Allow machine to cool.  |
|  | Insufficient spindle lubrication.                                    | Make sure machine is properly lubricated.   |
| Poor cut performance.                                      | Dull bit or cutting tool.  | Sharpen or replace.   |
|  | Drill chuck loose  | Secure chuck in spindle.  |
|  | Workpiece not secured to table.                                      | Tighten down workpiece. Use proper vise or jig for irregularly shaped pieces.       |
|  | Arbor not secured in spindle.  | Adjust tightness with drawbar.  |
|  | Spindle runout or loosening due to bearing misadjustment or failure. | Inspect spindle elements, such as bearings and lock nuts; adjust or replace.        |



| Symptom   | Possible Cause   | Correction*   |
|---|--|---|
| Fine feed not smooth, or won't engage properly. | Fine feed handwheel loose.   | Tighten set screw.  |
|   | Improper worm gear engagement.                                       | Replace worm gear elements as needed.   |
| Excessive vibration or noise.                   | Loose motor fan.   | Inspect and tighten.  |
|   | Spindle improperly lubricated.                                       | Maintain proper machine lubrication.  |
|   | Gear not properly meshed.  | Manually rotate spindle while selecting gear/speed range to ensure proper mesh.                         |
|   | Spindle runout or loosening due to bearing misadjustment or failure. | Inspect spindle elements, such as bearings and lock nuts; adjust or replace.                            |
|   | Motor imbalance.   | Repair or replace motor.  |
| Drill or cutter overheats or burns workpiece.   | Dull cutting tool.   | Sharpen or replace.   |
|   | Insufficient feed rate.  | Increase feed rate. Consult machinery handbook for proper speeds and feed rates for specific materials. |
|   | Excessive spindle speed.   | Reduce speed. Consult machinery handbook for proper speeds and feed rates for specific materials.       |
|   | Tool rotation incorrect.   | Reverse rotation.   |
|   | Chips not clearing.  | Adjust speed or feed rate to allow proper clearing.   |
|   | Failure to use cutting lubricant.                                    | Use proper lubricant for material being cut.  |
| Drill bit wanders.                              | No drill spot.   | Center punch or center drill workpiece.   |
|   | Improper geometry of cutting edges.                                  | Regrind drill bit or replace.   |
|   | Spindle or quill loose, or play in bearings.                         | Inspect and adjust.   |
| Excessive wobble/runout in drill.               | Improper chucking of bit.  | Properly reinsert drill bit in chuck.   |
|   | Drill bent.  | Replace.  |
|   | Play in spindle bearings.  | Inspect and adjust.   |

\***Warning:** Some corrections may require a qualified electrician.

## 11.0 Optional accessory

An optional enclosed stand (p/n 350045) is available for your JET Mill-Drill Machine. Contact your dealer or visit our website for more information.



Figure 9-1: optional stand

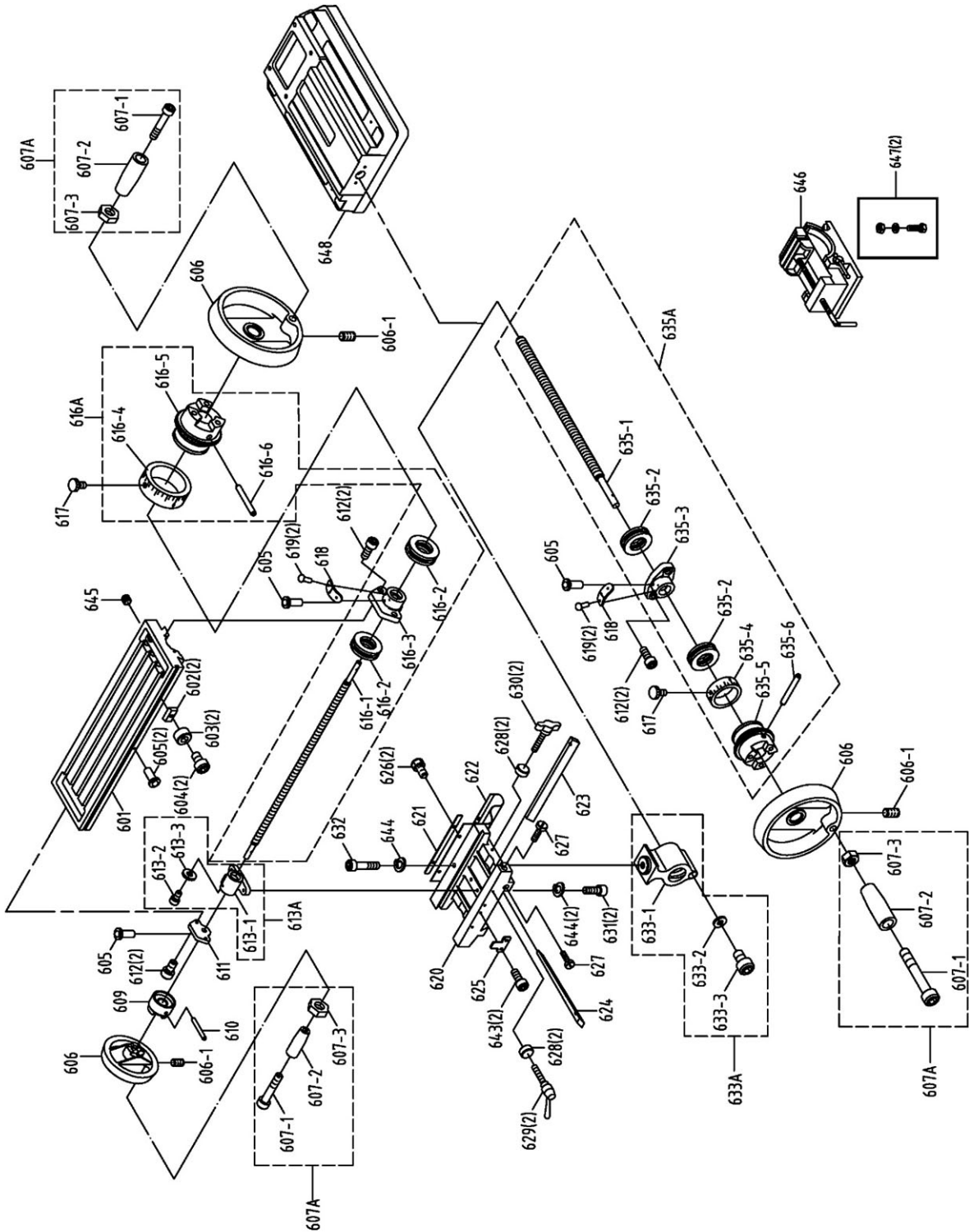
## 12.0 Replacement Parts

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.

12.1.1 JMD-45VSPF, -45VSPFT Table and Base Assembly – Exploded View



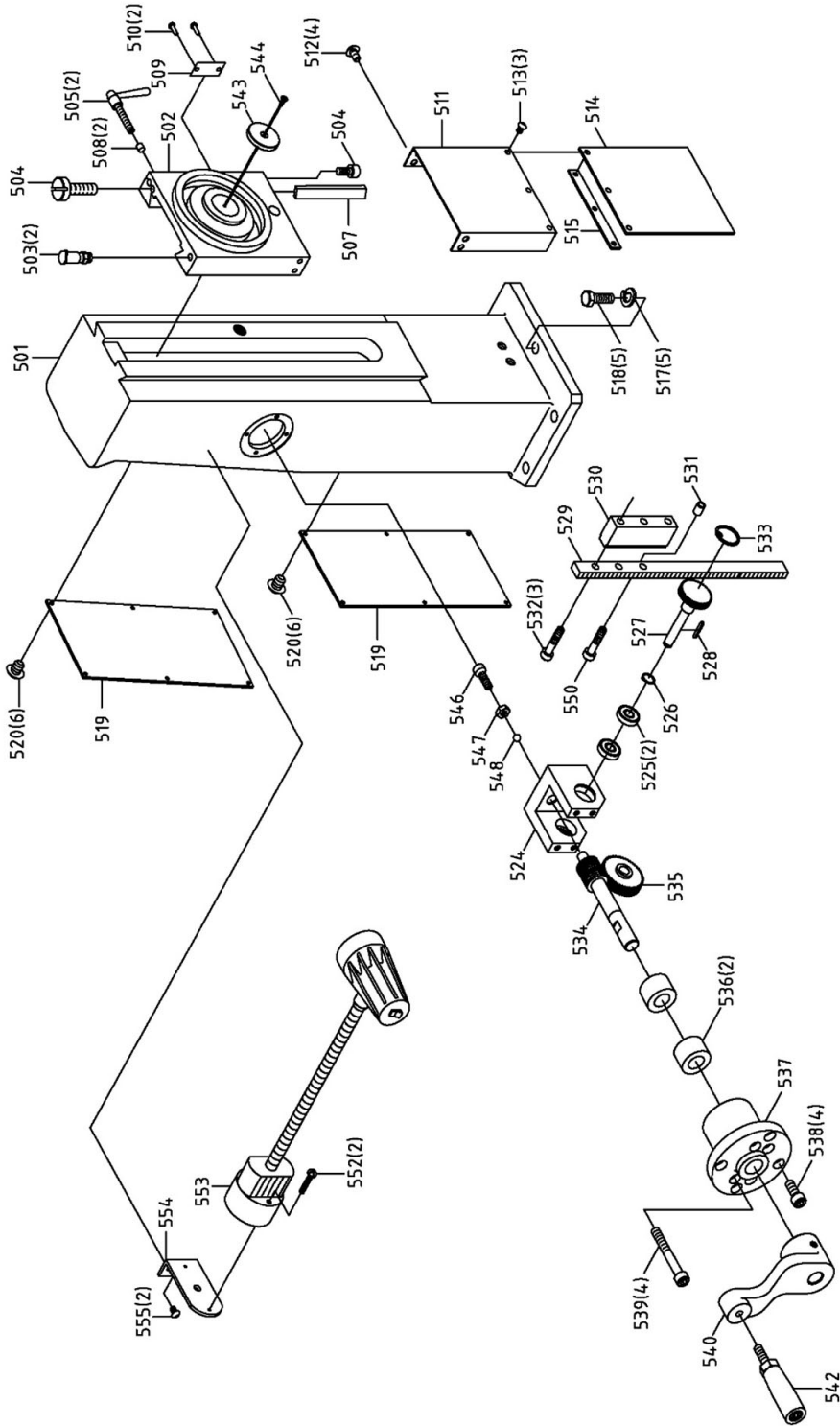
## 12.1.2 JMD-45VSPF, -45VSPFT Table and Base Assembly – Parts List

| Index No. | Part No.      | Description                                   | Size            | Qty |
|-----------|---------------|---|-----------------|-----|
| 601       | JMD18-228G    | Table   | 31L             | 1   |
| 602       | JMD18-229     | Fixed T-Block                                 |                 | 2   |
| 603       | JMD18-230     | Stop Ring                                     |                 | 2   |
| 604       | TS-0207021    | Hex Socket Head Cap Screw                     | 1/4"-20x1/2"    | 2   |
| 605       | JMD18-368     | Ball Oiler                                    | 1/4"            | 5   |
| 606       | JMD18-201     | Table Handwheel                               |                 | 3   |
| 606-1     | TS-0267041    | Set Screw                                     | 1/4"-20x3/8"    | 3   |
| 607A      | JMD18-201A    | Handle Assembly (#607-1 thru 607-3)           |                 | 3   |
| 607-1     | JMD18-201-1   | Hex Socket Head Cap Screw (RE: JMD18-201-2)   | 3/8"-16x16      | 3   |
| 607-2     | JMD18-201-2   | Handle  |                 | 3   |
| 607-3     | TS-0561031    | Hex Nut                                       | 3/8"-16         | 3   |
| 609       | JMD18-220     | Table Clutch                                  |                 | 1   |
| 610       | JMD18-366     | Spring Pin                                    | 5x38L mm        | 1   |
| 611       | JMD18-222     | Left Flange                                   |                 | 1   |
| 612       | TS-0208061    | Hex Socket Head Cap Screw                     | 5/16"-18x1"     | 6   |
| 613A      | JMD18-223A    | Table Nut Set (#613-1 thru 616-3)             |                 | 1   |
| 613-1     | JMD18-223     | Table Nut                                     | TM23.7-10       | 1   |
| 613-2     | TS-1502041    | Hex Socket Head Cap Screw                     | M5-0.8x16       | 1   |
| 613-3     | TS-1550031    | Flat Washer                                   | M5              | 1   |
| 616A      | JMD18-224A    | Table Screw Assembly (#616-1 thru 616-6)      |                 | 1   |
| 616-1     | JMD18-224     | Table Lead Screw                              |                 | 1   |
| 616-2     | BB-51103      | Thrust Bearing                                | 51103           | 2   |
| 616-3     | JMD18-226     | Right Flange                                  |                 | 1   |
| 616-4     | JMD18-202-1   | Graduated Dial                                |                 | 1   |
| 616-5     | JMD18-202     | Dial Clutch                                   |                 | 1   |
| 616-6     | JMD18-366     | Spring Pin                                    | 5x38L mm        | 1   |
| 617       | JMD18N-617    | Link Screw                                    |                 | 2   |
| 618       | JMD18-121     | Indicator Plate                               |                 | 2   |
| 619       | JMD18-204-2   | Rivet   | 2mm             | 4   |
| 620       | JMD18-216G    | Center Base                                   | 31L             | 1   |
| 621       | JMD18-219     | Anti-Dust Plate                               |                 | 1   |
| 622       | JMD18-217     | Anti-Dust Plate Assembly                      |                 | 1   |
| 623       | JMD18-227     | Gib Strip                                     | 31L             | 1   |
| 624       | JMD18-207     | Gib Strip                                     | 31L             | 1   |
| 625       | JMD18-214     | Fixed Block                                   |                 | 1   |
| 626       | TS-0051011    | Hex Cap Screw                                 | 5/16"-18x1/2"   | 4   |
| 627       | JMD18-212     | Gib Strip Bolt                                |                 | 2   |
| 628       | JMD18N-628    | Bushing                                       |                 | 4   |
| 629       | JMD18-213-1   | Locking Handle                                |                 | 2   |
| 630       | JMD18-213     | Leaf Screw                                    |                 | 2   |
| 631       | TS-0208061    | Hex Socket Head Cap Screw                     | 5/16"-18x1"     | 2   |
| 632       | TS-0051101    | Hex Socket Head Cap Screw                     | 5/16"-18x2-1/4" | 1   |
| 633A      | JMD18-215A    | ACME Nut Assembly (#633-1 thru 633-3)         |                 | 1   |
| 635A      | JMD18-205A    | ACME Nut Assembly (#635-1 thru 635-6)         |                 | 1   |
| 635-1     | JMD45GH-635-1 | Cross Lead Screw                              | TM23            | 1   |
| 635-2     | BB-51103      | Thrust Bearing                                | 51103           | 2   |
| 635-3     | JMD18-204     | Square Flange                                 |                 | 1   |
| 635-4     | JMD18-202-1   | Graduated Dial                                |                 | 1   |
| 635-5     | JMD18-202     | Dial Clutch                                   |                 | 1   |
| 635-6     | JMD18-366     | Spring Pin                                    | 5x38 mm         | 1   |
| 643       | TS-0208022    | Hex Socket Head Cap Screw                     | 5/16"-24x1/2"   | 2   |
| 644       | JMD18N-644    | Lock Washer                                   | 5/16"           | 3   |
| 645       | JMD18N-645    | Plug  | PT1/4"x3/8"     | 1   |
| 646       | 365534        | Angle Vise                                    |                 | 1   |
| 647       | 365534-01     | Hardware Package (2 Bolts, 2 Nuts, 2 Washers) |                 | 1   |
| 648       | JMD45GH-648   | Base  |                 | 1   |
|           | JMD40GH-AP    | Accessory Package (not shown) *               |                 | 1   |

\* Contents of JMD40GH-AP Accessory Package:

|                        |  |                          |
|------------------------|--|--------------------------|
| ..... JMD18-020.....   | Cutter Arbor .....                                 | 1                        |
| ..... JMD18-022.....   | Handle .....                                       | 4                        |
| ..... JMD18-039.....   | Handle Rod.....                                    | 3                        |
| ..... JMD18-040.....   | Knob .....   | 3                        |
| ..... JMD18-050.....   | Lock Handle.....                                   | 1                        |
| ..... 561704 .....     | Drill Chuck w/Chuck Key .....                      | JT6, 1/2" (13mm) ..... 1 |
| ..... JMD18-086.....   | Face Mill Cutter Assembly.....                     | 3" (74mm) ..... 1        |
| ..... JMD18-086A.....  | Cutter Insert (Installed) .....                    | 4                        |
| ..... JMD18-021.....   | Chuck Arbor (Installed).....                       | 1                        |
| ..... 365534 .....     | Angle Vise .....                                   | 1                        |
| ..... JMD18-058.....   | Handle Crank.....                                  | 1                        |
| ..... JMD18-201.....   | Wheel .....  | 3                        |
| ..... TS-152704 .....  | Hex Wrench .....                                   | 3mm..... 1               |
| ..... TS-152705 .....  | Hex Wrench .....                                   | 4mm..... 1               |
| ..... TS-152706 .....  | Hex Wrench .....                                   | 5mm..... 1               |
| ..... TS-0209051 ..... | Hex Socket Cap Screw.....                          | 3/8"-16x1" ..... 1       |
| ..... TS-0680041 ..... | Flat Washer .....                                  | 3/8"..... 1              |
| ..... 365534-01.....   | Hardware Package (2 Bolts, 2 Nuts, 2 Washers)..... | 1                        |
| ..... JMD40GH-PW ..... | Plum Wrench .....                                  | 1                        |

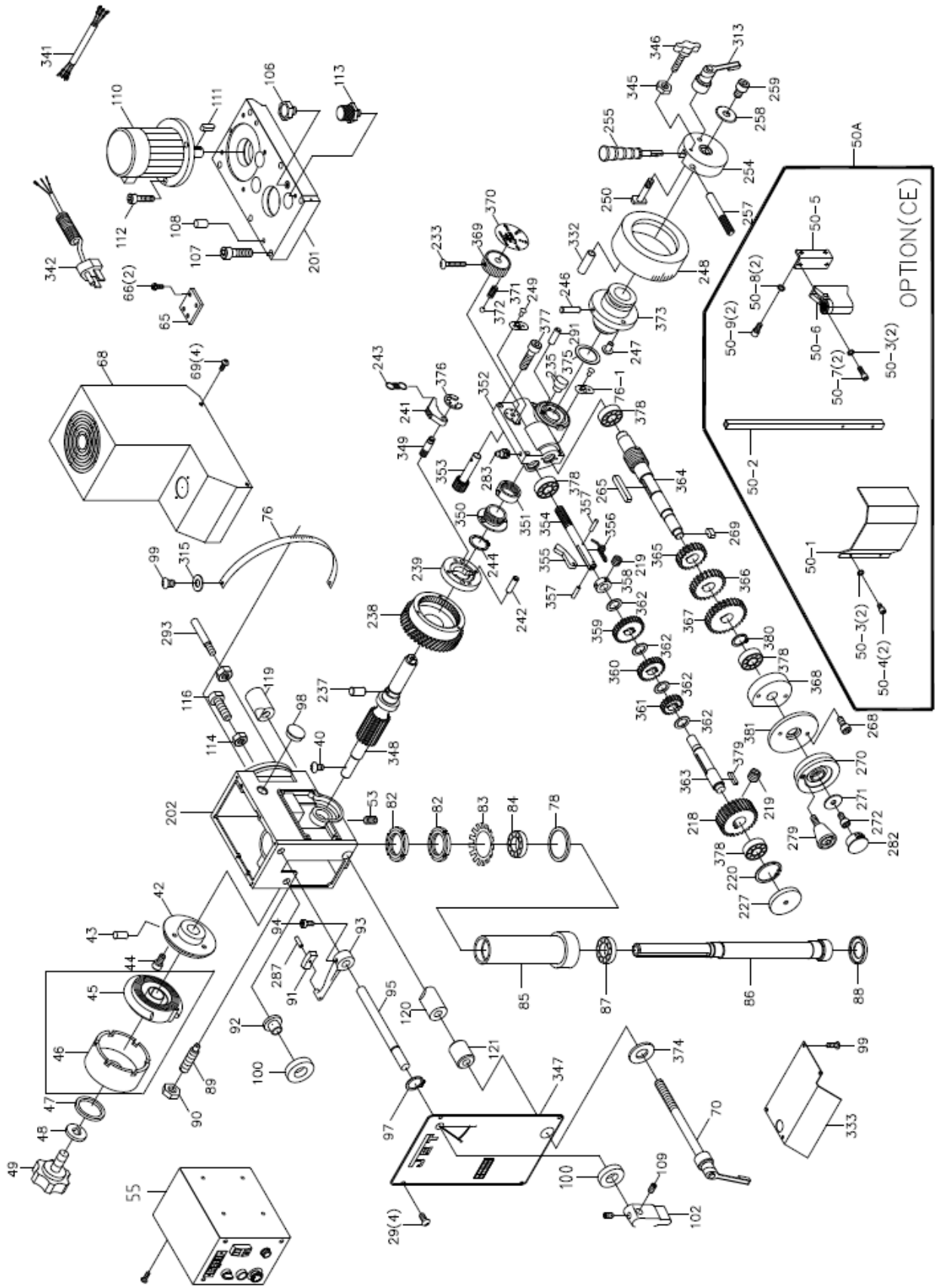
12.2.1 JMD-45VSPF, -45VSPFT Column Assembly – Exploded View



## 12.2.2 JMD-45VSPF, -45VSPFT Column Assembly – Parts List

| Index No. | Part No.     | Description                                    | Size            | Qty |
|-----------|--------------|--|-----------------|-----|
| 501A      | JMD45GH-501A | Vertical Square Column Assembly (#501,502,507) |                 | 1   |
| 501       | JMD45GH-501  | Vertical Square Column                         |                 | 1   |
| 502       | JMD45GH-502  | Headstock Swivel Base                          |                 | 1   |
| 503       | JMD45GH-503  | Oil Cup  | PT1/8"          | 2   |
| 504       | JMD45GH-504  | Adjustable Screw                               |                 | 2   |
| 505       | JMD45GH-505  | Handle   |                 | 2   |
| 507       | JMD45GH-507  | Gib  |                 | 1   |
| 508       | JMD45GH-508  | Bushing  |                 | 2   |
| 509       | JMD45GH-509  | Index  |                 | 1   |
| 510       | JMD45GH-510  | Rivet  | ϕ2-5L           | 2   |
| 511       | JMD45GH-511  | Anti-Dust Plate                                |                 | 1   |
| 512       | F001216      | Phillips Pan Hd Machine Screw BO               | M5x10L          | 4   |
| 513       | F001175      | Phillips Pan Hd Machine Screw BO               | M4x8L           | 3   |
| 514       | JMD45GH-514  | Anti-Dust Plate                                |                 | 1   |
| 515       | JMD45GH-515  | Press Board                                    |                 | 1   |
| 517       | TS-0720131   | Lock Washer                                    | 5/8"            | 5   |
| 518       | TS-0071051   | Hex Cap Screw                                  | 5/8"-11x2-1/2"L | 5   |
| 519       | JMD45GH-519  | Steel Plate                                    |                 | 2   |
| 520       | F001216      | Phillips Pan Hd Machine Screw BO               | M5x10L          | 12  |
| 524       | JMD45GH-524  | Bracket  |                 | 1   |
| 525       | BB-6003ZZ    | Ball Bearing                                   | 6003ZZ          | 2   |
| 526       | F006045      | C-Retainer Ring, External                      | S17             | 1   |
| 527       | JMD45GH-527  | Gear Shaft                                     |                 | 1   |
| 528       | JMD45GH-528  | Key, Double Rd. Head                           | 5x5x28L mm      | 1   |
| 529       | JMD45GH-529  | Rack   |                 | 1   |
| 530       | JMD45GH-530  | Block  |                 | 1   |
| 531       | JMD45GH-531  | Bushing  |                 | 1   |
| 532       | F005671      | Hex Socket Head Cap Screw                      | M12x85L         | 4   |
| 533       | F006033      | C-Retainer Ring, Internal                      | R35             | 1   |
| 534       | JMD45GH-534  | Worm Shaft                                     |                 | 1   |
| 535       | JMD45GH-535  | Worm Gear                                      |                 | 1   |
| 536       | JMD45GH-536  | Bearing  |                 | 2   |
| 537       | JMD45GH-537  | Support Flange                                 |                 | 1   |
| 538       | TS-1504051   | Hex Socket Head Cap Screw                      | M8x25L          | 4   |
| 539       | TS-1504121   | Hex Socket Head Cap Screw                      | M8x60L          | 4   |
| 540       | JMD40GH-59-1 | Crank  |                 | 1   |
| 542       | JMD18-201A   | Handle Assembly                                |                 | 1   |
| 543       | JMD45GH-543  | Swivel Base Flange                             |                 | 1   |
| 544       | JMD45GH-544  | Hex Socket Flat Head Screw                     |                 | 1   |
| 546       | TS-1504041   | Hex Socket Head Cap Screw                      | M8x20L          | 1   |
| 547       | TS-1540061   | Hex Nut  | M8              | 1   |
| 548       | SB-6MM       | Steel Ball                                     | Ø6mm            | 1   |
| 550       | F005461      | Hex Socket Head Cap Screw                      | M12-1.75x75     | 1   |
| 552       | TS-2284352   | Pan Head Screw                                 | M4x35L          | 2   |
| 553       | JMD40GH-124  | Lamp Assembly                                  | 110V            | 1   |
| 554       | GHD20-126    | Lamp Base                                      |                 | 1   |
| 555       | TS-1503031   | Hex Socket Cap Screw                           | M6x12L          | 2   |

### 12.3.1 JMD-45VSPF, -45VSPFT Gear Head Assembly – Exploded View



### 12.3.2 JMD-45VSPF, -45VSPFT Gear Head Assembly – Parts List

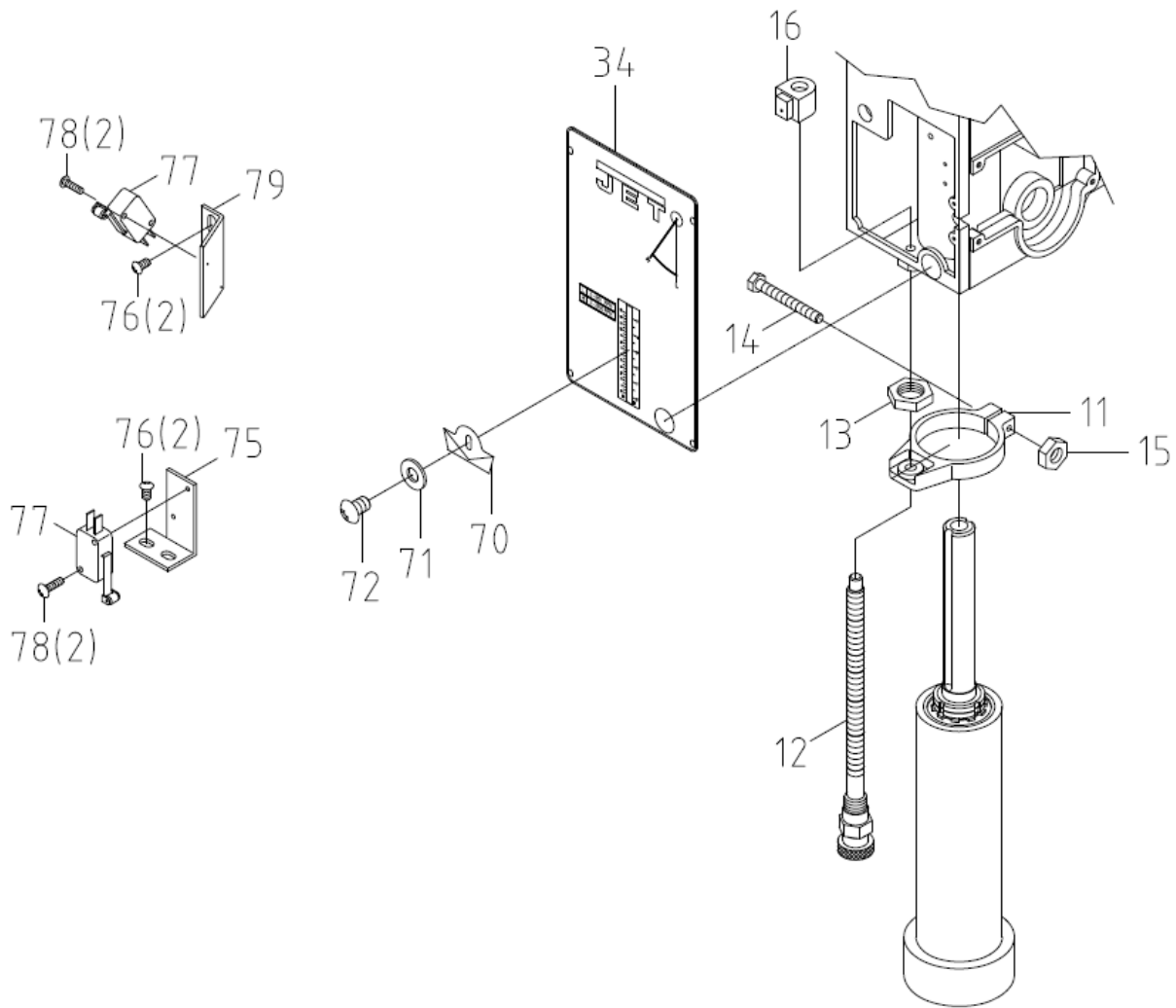
| Index No. | Part No.      | Description                             | Size              | Qty |
|-----------|---------------|---|-------------------|-----|
| 29        | TS-081C022    | Phillips Pan Hd Machine Screw           | 3/16"-24UNCx3/8"L | 4   |
| 40        | GHD20PF-40    | Screw                                   | 3/16" x 3/8"      | 1   |
| 42        | 61105         | Spring Base                             |                   | 1   |
| 43        | GHD20PF-43    | Spring Pin                              | 3 x 12 mm         | 2   |
| 44        | GHD20PF-44    | Screw                                   | 3/16" x 3/4"      | 3   |
| 45        | 61103S        | Spring and Cover (includes #46)         |                   | 1   |
| 46        | 61103         | Spring Cover (RE:61103S)                |                   | 1   |
| 47        | TS-0680021    | Flat Washer                             | 1/4"              | 1   |
| 48        | TS-0720071    | Lock Washer                             | 1/4"              | 1   |
| 49        | 6185          | Lock Knob                               |                   | 1   |
| 50A       | GHD20-50-A    | Chuck Guard Assembly (#50-1 thru 50-9)  |                   | 1   |
| 50-1      | JMD18-125-1   | Chuck Guard and Support Rod             |                   | 1   |
| 50-2      | JMD18-125-2   | Support Rod (RE:JMD18-125-1)            |                   | 1   |
| 50-3      | TS-2361051    | Lock Washer                             | M5                | 4   |
| 50-4      | TS-1502021    | Hex Socket Head Cap Screw               | M5 x 10           | 2   |
| 50-5      | GHD20-50-5    | Chuck Guard Bracket                     |                   | 1   |
| 50-6      | JMD18-125-5   | Rotary Support Base                     |                   | 1   |
| 50-7      | JMD18-125-6   | Hex Socket Head Cap Screw               | M5 x 15L          | 2   |
| 50-8      | TS-1551041    | Lock Washer                             | M6                | 2   |
| 50-9      | 6286490       | Hex Socket Head Cap Screw               | M6 x 15L          | 2   |
| 52        | TS-0071141    | Hex Cap Screw                           | 5/8"-11 x 5-1/2"  | 2   |
| 53        | GHD20-53      | Oil Plug                                | 1/4"PT            | 1   |
| 55        | JMD45VSPF-55  | Electric Box Complete (JMD-45VSPF)      |                   | 1   |
|           | JMD45VSPFT-55 | Electric Box Complete (JMD-45VSPFT)     |                   | 1   |
| 65        | JMD45VSPF-65  | Sensor Bracket                          |                   | 1   |
| 66        | TS-1531012    | Phillips Pan Hd Machine Screw           | M3X5L             | 2   |
| 68        | JMD45VSPF-68  | Top Cover                               |                   | 1   |
| 69        | F009884       | Socket Head Button Screw                | M5X8L             | 4   |
| 70        | 2421003       | Handle Rod Assembly                     |                   | 1   |
| 76        | 2401076       | Scale                                   |                   | 1   |
| 76-1      | 2450060       | Pointer                                 |                   | 3   |
| 78        | 6112          | Rubber Gasket                           |                   | 1   |
| 82        | 6114          | Lock Nut                                |                   | 1   |
| 83        | GHD20PF-83    | Star Washer, External Tooth             | M30               | 1   |
| 84        | BB-30206      | Taper Roller Bearing                    | 30206             | 1   |
| 85        | 6116-R8       | Quill                                   | R8                | 1   |
| 86        | 6117-R8       | Spindle Shaft                           | R8                | 1   |
|           | 6117N-R8      | Spindle Shaft (s/n 1912xxxx and higher) | R8                | 1   |
| 87        | BB-30207      | Taper Roller Bearing                    | 30207             | 1   |
| 88        | 6119          | Bearing Cap                             |                   | 1   |
| 89        | 6127          | Screw Key                               |                   | 1   |
| 90        | TS-0561031    | Hex Nut                                 | 3/8"-16           | 1   |
| 91        | 2401066       | Gear Lever Bracket                      |                   | 1   |
| 92        | JMD45VSPF-92  | Plug                                    |                   | 1   |
| 93        | 2401068       | Gear Lever (Right)                      |                   | 1   |
| 94        | TS-0207021    | Hex Socket Head Cap Screw               | 1/4"-20 x 1/2"    | 1   |
| 95        | 2401070       | Lever Shaft (Right)                     |                   | 1   |
| 96        | 2401071       | Lever Shaft (Left)                      |                   | 1   |
| 97        | GHD20PF-97    | C-Ring, External                        | S12               | 1   |
| 98        | GHD20PF-98    | Oil Sight Glass                         |                   | 1   |
| 99        | GHD20PF-99    | Screw                                   | 3/16" x 3/8"      | 8   |
| 100       | GHD20PF-100   | Oil Seal                                | G12               | 2   |
| 102       | 2401075       | Speed Lever                             |                   | 1   |
| 106       | GHD20PF-106   | Oil Plug                                |                   | 1   |
| 107       | TS-0209081    | Hex Socket Head Cap Screw               | 3/8"-16 x 3/4"    | 6   |
| 108       | GHD20PF-108   | Miter Pin                               |                   | 2   |
| 109       | TS-0267021    | Set Screw                               | 1/4"-20 x 1/4"    | 2   |
| 110       | JMD45VSPF-110 | Motor                                   | 1.5HP 3PH 230V    | 1   |
| 111       | GHD20PF-111   | Double Rd. Hd. Key                      | 6 x 6 x 30mm      | 1   |
| 112       | TS-0209031    | Hex Socket Head Cap Screw               | 3/8"-16 x 3/4"    | 6   |



| Index No. | Part No.      | Description                     | Size             | Qty |
|-----------|---------------|---------------------------------|------------------|-----|
| 113       | GHD20-89      | Brass Fitting                   |                  | 1   |
| 114       | TS-0561071    | Hex Nut                         | 5/8"-11          | 3   |
| 116       | F008242       | Hex Cap Screw                   | 5/8"-11 x 2-1/4" | 3   |
| 119       | 6126-1        | Collar (threaded)               |                  | 1   |
| 120       | 6125-1        | Collar Nut                      |                  | 1   |
| 121       | 6125-2        | Collar                          |                  | 1   |
| 124       | JMD40GH-124   | Lamp Assembly                   | 110V             | 1   |
| 125       | TS-2284352    | Phillips Pan Head Machine Screw | M4-0.7x35L       | 2   |
| 126       | GHD20-126     | Lamp Base                       |                  | 1   |
| 127       | TS-1503031    | Hex Socket Head Cap Screw       | M6x12L           | 2   |
| 150       | TS-0561071    | Hex Nut                         | 5/8"-11          | 2   |
| 151       | TS-0680081    | Flat Washer                     | 5/8"             | 2   |
| 201       | 2450001G      | Head Body Cover                 |                  | 1   |
| 202       | 2450002G      | Head Body Casting               |                  | 1   |
| 218       | 2450008       | Worm Gear                       |                  | 1   |
| 219       | TS-1523011    | Set Screw                       | M6 x 6           | 4   |
| 220       | F006033       | C-Ring, Internal                | R35              | 4   |
| 227       | 2450014       | Cover                           |                  | 1   |
| 233       | GHD20PF-233   | Screw                           | M4 x 25          | 1   |
| 235       | 2450020       | Release Block                   |                  | 1   |
| 236       | 2450021       | Small Pinion Shaft              |                  | 1   |
| 237       | 2450022A      | Cylindrical Key                 | M8x12            | 2   |
| 238       | 2450023       | Worm Gear                       |                  | 1   |
| 239       | 2450024       | Clutch Key Base                 |                  | 1   |
| 241       | 2450026       | Clutch Key                      |                  | 2   |
| 242       | 2450027       | Spring Pin                      | Ø5x18L           | 2   |
| 243       | 2450028       | Spring                          |                  | 2   |
| 244       | GHD20PF-244   | C-Ring, External                | S25              | 1   |
| 246       | 2450030       | Bushing Pin                     |                  | 1   |
| 247       | 2450031       | Bushing Stop                    |                  | 1   |
| 248       | 2450032       | Scale Base                      |                  | 1   |
| 249       | GHD20PF-249   | Rivet                           | Ø2x4L            | 8   |
| 250       | 2450033       | Scale Base Set Screw            |                  | 1   |
| 254       | 2450037       | Handle Hub                      |                  | 1   |
| 255       | 2450038N      | Handle Rod                      |                  | 2   |
| 257       | 2450039       | Handle Rod Pin                  |                  | 2   |
| 258       | 2450040       | Washer                          |                  | 1   |
| 259       | TS-1504021    | Hex Socket Head Cap Screw       | M8-1.25 x 12     | 1   |
| 265       | GHD20PF-265   | Double Rd. Hd. Key              | 5 x 5 x 32mm     | 1   |
| 266       | 2450045       | Cover                           |                  | 1   |
| 268       | TS-1502031    | Hex Socket Head Cap Screw       | M5-0.8 x 12      | 2   |
| 269       | GHD20PF-269   | Key                             | 4 x 4 x 10mm     | 1   |
| 270       | 24500470      | Handwheel                       |                  | 1   |
| 271       | GHD20PF-271   | Washer                          |                  | 1   |
| 272       | TS-1503031    | Hex Socket Head Cap Screw       | M6-1.0 x 12      | 1   |
| 279       | JMD40GH-279   | Handle Assembly                 | 5/16"            | 1   |
| 282       | GHD20PF-282   | Plug                            | 7/8"             | 1   |
| 283       | GHD20PF-283   | Oil Seal                        |                  | 1   |
| 287       | GHD20PF-287   | Spring Pin                      | 4x16mm           | 1   |
| 291       | 2450051       | Pin                             |                  | 1   |
| 293       | HP309         | Taper Pin                       | M6xØ7 (1:48)     | 1   |
| 313       | 2450063       | Handle                          |                  | 1   |
| 315       | TS-0680011    | Flat Washer                     | 3/16"            | 2   |
| 332       | GHD20PF-332   | Pin                             | Ø5x15L           | 1   |
| 333       | 2450069       | Dust Plate                      |                  | 1   |
| 341       | JMD45VSPF-341 | Motor Cord                      | 14AWGX4C         | 1   |
| 342       | JMD45VSPF-342 | Power Cord                      |                  | 1   |
| 345       | TS-0640081    | Hex Nut                         | 5/16"-18         | 1   |
| 346       | GHD20PF-346   | Manual Feed Knob                |                  | 1   |
| 347       | JMD45VSPF-347 | Name Plate for JMD-45VSPF       |                  | 1   |
|           | JET-92        | JET Logo (not shown)            | 92x38MM          | 1   |
| 348       | 2450086A      | Pinion Shaft                    |                  | 1   |

| Index No. | Part No.    | Description                               | Size               | Qty |
|-----------|-------------|---|--------------------|-----|
| 349       | 2450097     | Clutch Key Pin                            | Ø7x23L mm          | 2   |
| 350       | 2450096     | Clutch Screw                              |                    | 1   |
| 351       | 2450095     | Clutch Nut                                |                    | 1   |
| 352       | 2450068G    | Gear Box                                  |                    | 1   |
| 353       | 2450081A    | Gear Shaft                                |                    | 1   |
| 354       | 2450082A    | Speed Change Lever                        |                    | 1   |
| 355       | 2450083A    | Stop                                      |                    | 1   |
| 356       | 2450084A    | Spring Leaf                               |                    | 1   |
| 357       | GHD20PF-357 | Pin                                       | Ø3x10L mm          | 2   |
| 358       | 2450089A    | Fixed Bushing                             |                    | 1   |
| 359       | 2450072A    | Gear                                      |                    | 1   |
| 360       | 2450071A    | Gear                                      |                    | 1   |
| 361       | 2450070A    | Gear                                      |                    | 1   |
| 362       | 2450074A    | Washer                                    |                    | 4   |
| 363       | 2450073A    | Shaft                                     |                    | 1   |
| 364       | 2450078A    | Transmission Worm                         |                    | 1   |
| 365       | 2450075A    | Gear                                      |                    | 1   |
| 366       | 2450076A    | Gear                                      |                    | 1   |
| 367       | 2450077A    | Gear                                      |                    | 1   |
| 368       | 2450085A    | Spacer Ring                               |                    | 1   |
| 369       | 2450079     | Speed Lever                               |                    | 1   |
| 370       | GHD20PF-370 | Speed Scale                               |                    | 1   |
| 371       | 290089      | Spring                                    |                    | 1   |
| 372       | SB-8MM      | Steel Ball                                | 8mm                | 1   |
| 373       | 2450087A    | Clutch Bushing                            |                    | 1   |
| 374       | GHD20-374   | Flat Washer                               | 1/2" x 7/8" x 2"   | 1   |
| 375       | 2450100     | Washer                                    |                    | 1   |
| 376       | GHD20PF-376 | E-Retainer Ring                           | E5                 | 2   |
| 377       | TS-0208071  | Hex Socket Head Cap Screw                 | 5/16"-18 x 1-1/4"L | 4   |
| 378       | CA6003ZZ    | Ball Bearing                              |                    | 4   |
| 379       | GHD20PF-379 | Double Rd. Hd. Key                        | 5 x 5 x 28L mm     | 1   |
| 380       | GHD20PF-380 | C-Ring                                    |                    | 1   |
| 381       | 2450088A    | Graduated Bottom Plate                    |                    | 1   |
|           | LM000292    | ID/Warning Label, JMD-45VSPF (not shown)  |                    | 1   |
|           | LM000293    | ID/Warning Label, JMD-45VSPFT (not shown) |                    | 1   |

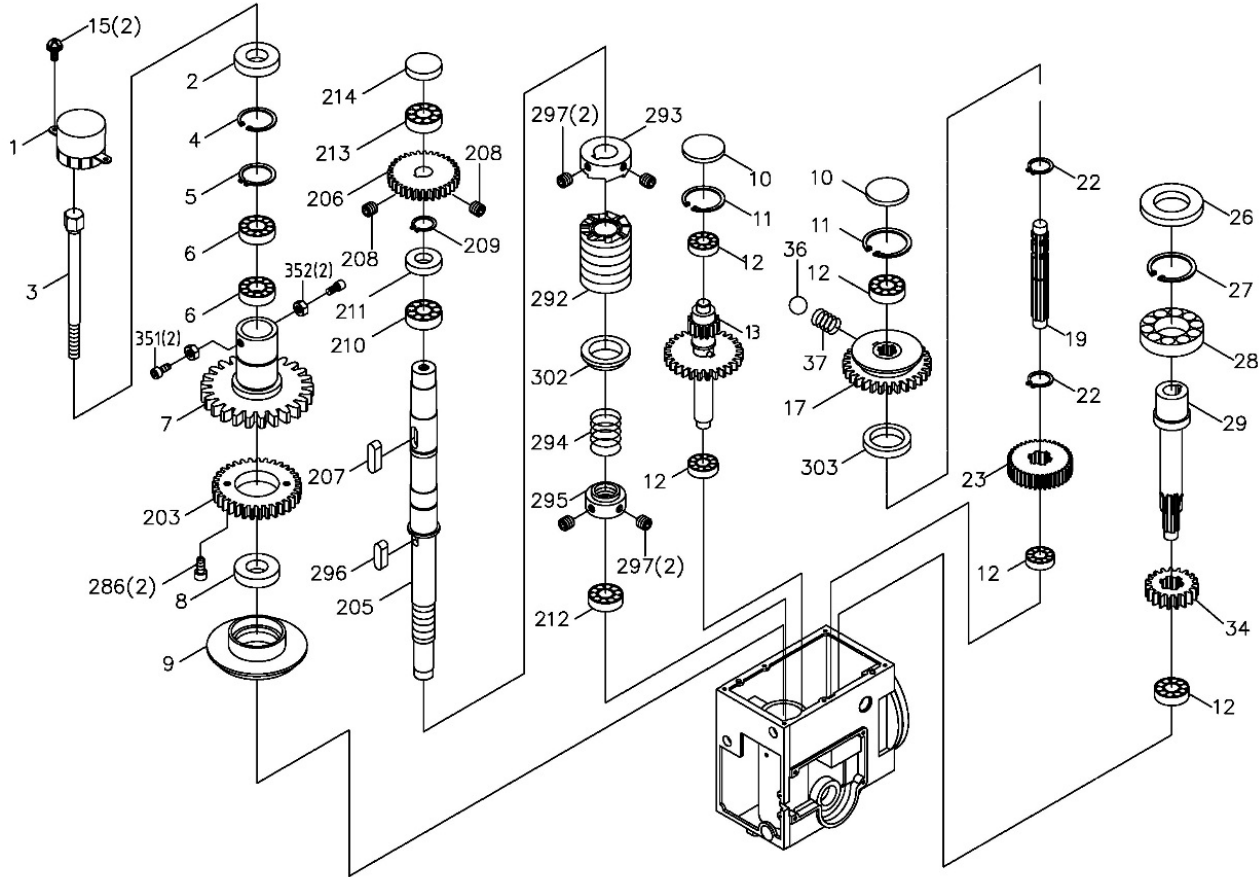
### 12.4.1 JMD-45VSPFT Tapping Assembly – Exploded View



### 12.4.2 JMD-45VSPFT Tapping Assembly – Parts List

| Index No. | Part No.       | Description                   | Size         | Qty |
|-----------|----------------|-------------------------------|--------------|-----|
| 11        | 6513           | Feed Base                     |              | 1   |
| 12        | JMD45VSPFT-12  | Threaded Rod Assembly         |              | 1   |
| 13        | 6193           | Nut                           |              | 1   |
| 14        | TS-0050091     | Hex Cap Screw                 | 1/4"-20 x 2" | 1   |
| 15        | TS-0561011     | Hex Nut                       | 1/4"-20      | 1   |
| 16        | 6192           | Depth Stop Block              |              | 1   |
| 34        | JMD45VSPFT-34  | Name Plate for JMD-45VSPFT    |              | 1   |
|           | JET-92         | JET Logo (not shown)          | 92x38MM      | 1   |
| 70        | 61102          | Limit Plate                   |              | 1   |
| 71        | TS-0680021     | Flat Washer                   | 1/4"         | 1   |
| 72        | F000197        | Phillips Pan Hd Machine Screw | #8-32 x 1/4" | 1   |
| 75        | GHD20PFT-403-1 | Limit Bracket                 |              | 1   |
| 76        | TS-081C042     | Phillips Pan Hd Machine Screw | #10-24x5/8"  | 4   |
| 77        | ET-1610        | Limit Block                   |              | 2   |
| 78        | JSH275-43-1    | Phillips Pan Hd Machine Screw | M3x15        | 4   |
| 79        | GHD20PFT-407-1 | Limit Support                 |              | 1   |

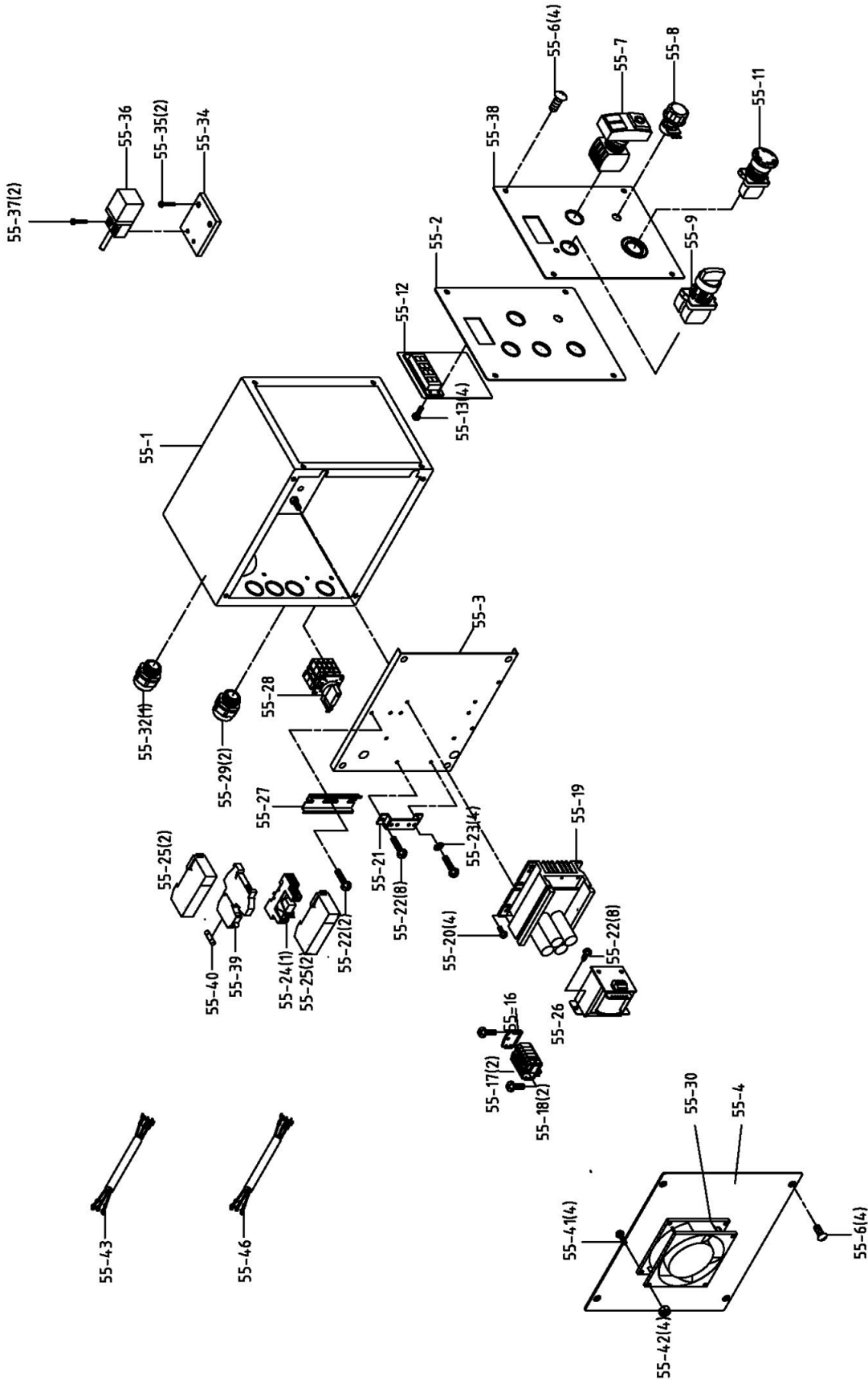
### 12.5.1 JMD-45VSPF, -45VSPFT Gears Assembly – Exploded View



## 12.5.2 JMD-45VSPF, -45VSPFT Gears Assembly – Exploded View

| Index No. | Part No.      | Description                         | Size         | Qty |
|-----------|---------------|-------------------------------------|--------------|-----|
| 1         | JMD45VSPF-100 | Main Shaft Cover                    |              | 1   |
| 2         | GHD20-28      | Oil Seal                            |              | 1   |
| 3         | JMD45GH-03    | Draw Bar                            | 7/16"        | 1   |
| 4         | GHD20-4       | Retainer Ring, Internal             | R68          | 1   |
| 5         | GHD20PF-5     | Retainer Ring, External             | S40          | 1   |
| 6         | BB-6008ZZ     | Ball Bearing                        | 6008ZZ       | 2   |
| 7         | 2401006       | Idle Gear                           | 53T          | 1   |
|           | 2401006N      | Idle Gear (s/n 1912xxxx and higher) | 53T / 2-Slot | 1   |
| 8         | GHD20-7       | Oil Seal                            |              | 1   |
| 9         | 2401008       | Oil Seal Ring                       |              | 1   |
| 10        | GHD20-9       | Dust Cover                          |              | 2   |
| 11        | GHD20-10      | C-Ring                              |              | 2   |
| 12        | BB-6002ZZ     | Ball Bearing                        | 6002ZZ       | 5   |
| 13        | 2401020A      | Gear Shaft Assembly                 | 15/41T       | 1   |
| 15        | TS-1532032    | Phillips Pan Hd Machine Screw       | M4-0.7x10L   | 2   |
| 17        | 2401029N      | Idle Gear                           | 42T/16T      | 1   |
| 19        | 2401031       | Pinion Shaft                        |              | 1   |
| 22        | GHD20-33      | C-Ring, Ext                         | S18          | 2   |
| 23        | 241004A       | Idle Gear                           | 31T          | 1   |
| 26        | GHD20-50      | Oil Seal                            |              | 1   |
| 27        | GHD20-42      | C-Ring, Internal                    | R62          | 1   |
| 28        | BB-6007ZZ     | Ball Bearing                        | 6007ZZ       | 1   |
| 29        | 2401043       | Pinion Shaft                        |              | 1   |
| 34        | 241003B       | Idle Gear                           | 28T          | 1   |
| 36/37     | GHD20-30      | Steel Ball w/ Spring                | 5/16"        | 1   |
| 203       | 2450003       | Idle Gear                           | 33T          | 1   |
| 205       | 2450004       | Transmission Worm                   |              | 1   |
| 206       | 2450005       | Idle Gear                           | 33T          | 1   |
| 207       | GHD20PF-207   | Double Rd. Hd. Key                  | 5x5x16       | 1   |
| 208       | TS-1523011    | Set Screw                           | M6x6         | 2   |
| 209       | GHD20PF-209   | C-Ring, External                    | S17          | 2   |
| 210       | BB-6003ZZ     | Ball Bearing                        | 6003ZZ       | 1   |
| 211       | GHD20PF-211   | Oil Seal                            |              | 1   |
| 212       | BB-6001ZZ     | Ball Bearing                        | 6001ZZ       | 1   |
| 213       | BB-6202ZZ     | Ball Bearing                        | 6202ZZ       | 1   |
| 214       | GHD20-214     | Oil Seal Cover                      |              | 1   |
| 286       | TS-1502031    | Hex Socket Head Cap Screw           | M5x12        | 2   |
| 292       | 2450052       | Worm Shaft                          |              | 1   |
| 293       | 2450053       | Clutch Block                        |              | 1   |
| 294       | 2450054       | Spring                              |              | 1   |
| 295       | 2450055       | Adjustable Bolt                     |              | 1   |
| 296       | GHD20PF-296   | Key                                 | 5x5x10       | 1   |
| 297       | GHD20PF-297   | Set Screw                           | M5x5         | 4   |
| 302       | 2450057       | Washer                              |              | 1   |
| 303       | 2401192       | Bushing                             |              | 1   |
| 351       | TS-1503011    | Hex Socket Head Cap Screw           | M6x8L        | 2   |
| 352       | TS-1540041    | Hex Nut                             | M6           | 2   |

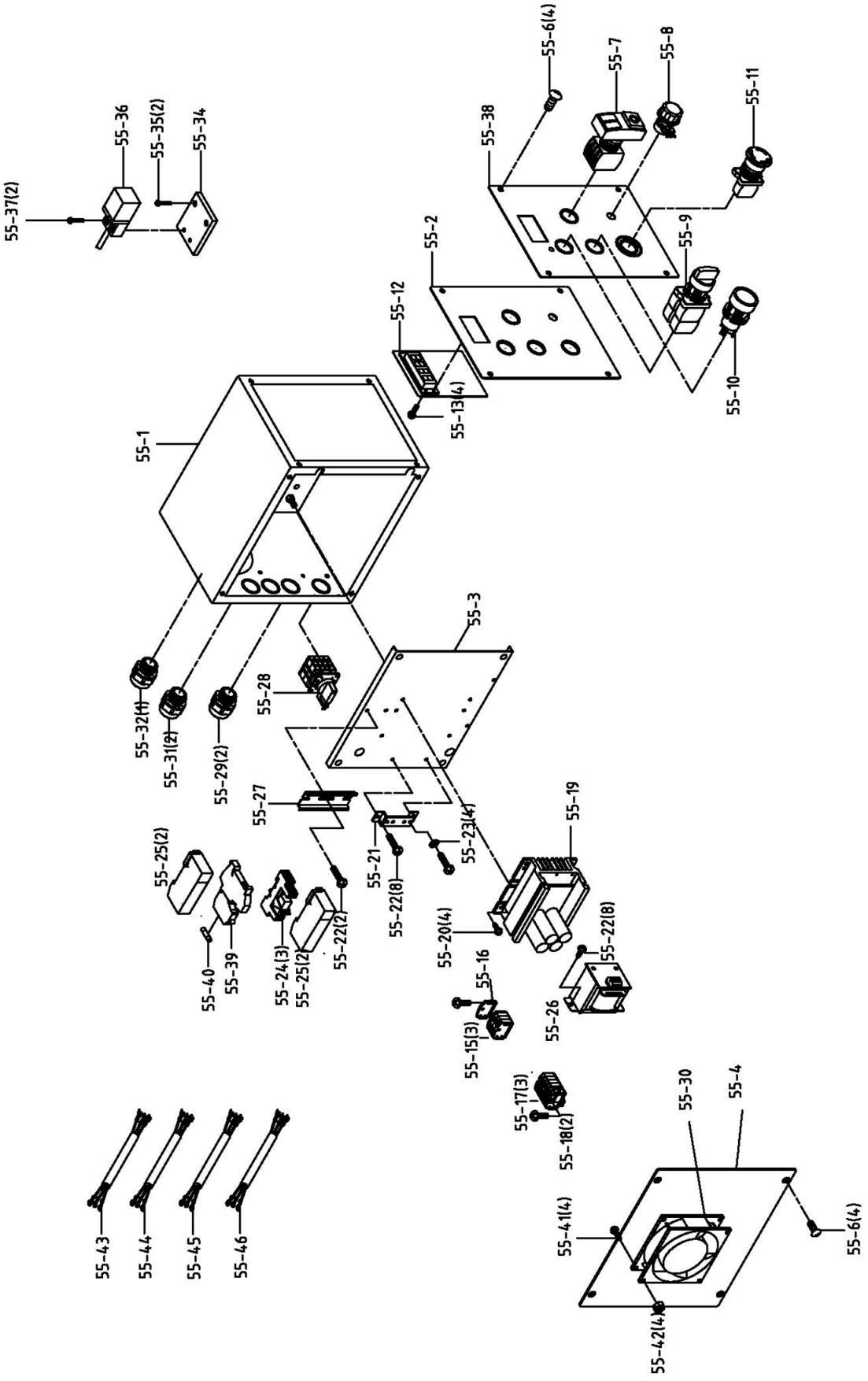
# 12.6.1 JMD-45VSPF Electric Box Assembly – Exploded View



## 12.6.2 JMD-45VSPF Electric Box Assembly – Parts List

| Index No. | Part No.        | Description                        | Size      | Qty |
|-----------|-----------------|------------------------------------|-----------|-----|
|           | JMD45VSPF-55    | Electric Box Complete (JMD-45VSPF) |           | 1   |
| 55-1      | JMD45VSPF-55-1  | Electric Box                       |           | 1   |
| 55-2      | JMD45VSPF-55-2  | Front Cover                        |           | 1   |
| 55-3      | JMD45VSPF-55-3  | Back Plate                         |           | 1   |
| 55-4      | JMD45VSPF-55-4  | Side Cover                         |           | 1   |
| 55-5      | JMD45VSPF-55-5  | DRO PC Board (not shown)           |           | 1   |
| 55-6      | TS-2245102      | Socket Hd Button Screw             | M5X10L    | 8   |
| 55-7      | JMD45VSPF-55-7  | Double Switch w/ Light             |           | 1   |
| 55-8      | JMD45VSPF-55-8  | VR Switch                          |           | 1   |
| 55-9      | JMD45VSPF-55-9  | Turn Switch                        | NSS-22S3  | 1   |
| 55-11     | JMD45VSPF-55-11 | Emergency Switch                   |           | 1   |
| 55-12     | JMD45VSPF-55-12 | Digital Read Out                   |           | 1   |
| 55-13     | TS-2283102      | Phillips Pan Head Machine Screw    | M3x10L    | 4   |
| 55-16     | JMD45VSPF-55-16 | Side Plate                         |           | 1   |
| 55-17     | JMD45VSPF-55-17 | Terminal                           |           | 2   |
| 55-18     | TS-2171012      | Phillips Pan Head Machine Screw    | M4x6      | 2   |
| 55-19     | JMD45VSPF-55-19 | Inverter                           | RFVF-26D  | 1   |
| 55-20     | TS-1532032      | Phillips Pan Head Machine Screw    | M4x10L    | 4   |
| 55-21     | JMD45VSPF-55-21 | Copper Grounding Plate             |           | 1   |
| 55-22     | TS-2284082      | Phillips Pan Head Machine Screw    | M4x8L     | 8   |
| 55-23     | TS-0733031      | Lock Washer, Ext Tooth             | #10 (M5)  | 4   |
| 55-24     | JMD45VSPF-55-24 | Relay                              | 24V       | 1   |
| 55-25     | JMD45VSPF-55-25 | Fixed Plate                        |           | 2   |
| 55-26     | JMD45VSPF-55-26 | Transformer                        |           | 1   |
| 55-27     | JMD45VSPF-55-27 | Switch bracket                     |           | 1   |
| 55-28     | JMD45VSPF-55-28 | Main Power w/ Lock Key             | 48x48     | 1   |
| 55-29     | SR-PG11         | Strain Relief                      | PG11      | 2   |
| 55-30     | JMD45VSPF-55-30 | Fan                                | 110V      | 1   |
| 55-32     | SR-PG8          | Strain Relief                      | PG8       | 1   |
| 55-34     | JMD45VSPF-55-34 | Bracket                            |           | 1   |
| 55-35     | TS-2283102      | Phillips Pan Head Machine Screw    | M3x10L    | 2   |
| 55-36     | JMD45VSPF-55-36 | Sensor                             |           | 1   |
| 55-37     | JSH275-43-1     | Phillips Pan Head Machine Screw    | M3x16L    | 2   |
| 55-38     | JMD45VSPF-55-38 | Control Panel for JMD-45VSPF       |           | 1   |
| 55-39     | JMD45VSPF-55-39 | Fuse Bracket                       |           | 1   |
| 55-40     | JMD45VSPF-55-40 | Fuse                               | 0.5A 2CM  | 1   |
| 55-41     | 2SS-3C-01701    | Phillips Pan Head Machine Screw    | M4x40L    | 4   |
| 55-42     | TS-1540021      | Hex Nut                            | M4        | 4   |
| 55-43     | JMD45VSPF-55-43 | Motor Cord                         |           | 1   |
| 55-46     | JMD45VSPF-55-46 | Power Cord                         | SJT 14x3C | 1   |

# 12.7.1 JMD-45VSPFT Electric Box Assembly – Exploded View



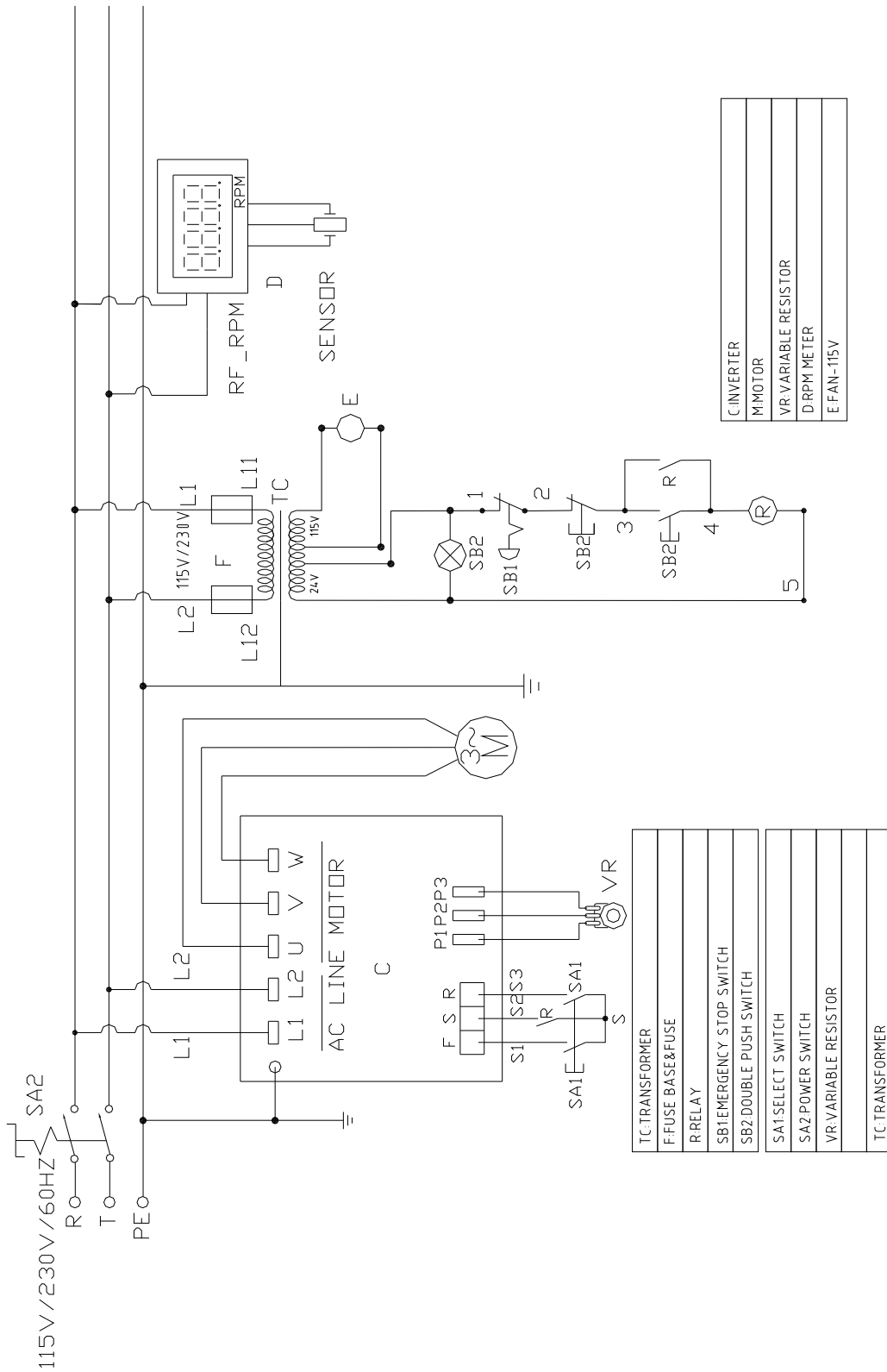


## 12.7.2 JMD-45VSPFT Electric Box Assembly – Parts List

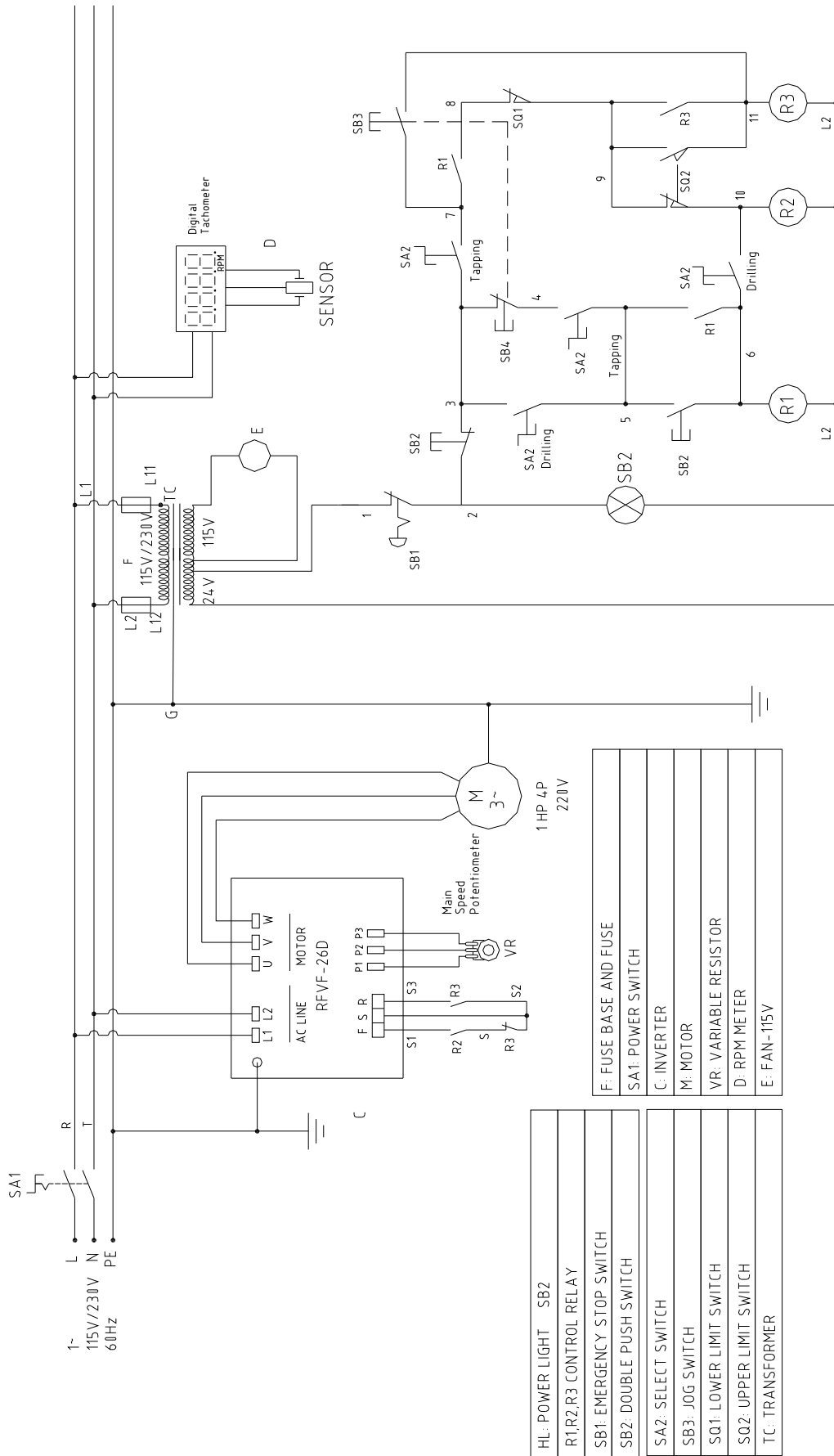
| Index No. | Part No.         | Description                         | Size      | Qty |
|-----------|------------------|-------------------------------------|-----------|-----|
|           | JMD45VSPFT-55    | Electric Box Complete (JMD-45VSPFT) |           | 1   |
| 55-1      | JMD45VSPF-55-1   | Electric Box                        |           | 1   |
| 55-2      | JMD45VSPFT-55-2  | Front Cover                         |           | 1   |
| 55-3      | JMD45VSPF-55-3   | Back Plate                          |           | 1   |
| 55-4      | JMD45VSPF-55-4   | Side Cover                          |           | 1   |
| 55-5      | JMD45VSPF-55-5   | DRO PC Board (not shown)            |           | 1   |
| 55-6      | TS-2245102       | Socket Hd Button Screw              | M5X10L    | 8   |
| 55-7      | JMD45VSPF-55-7   | Double Switch w/ Light              |           | 1   |
| 55-8      | JMD45VSPF-55-8   | VR Switch                           |           | 1   |
| 55-9      | JMD45VSPF-55-9   | Turn Switch                         | NSS-22S3  | 1   |
| 55-10     | JMD45VSPFT-55-10 | Push Button                         |           | 1   |
| 55-11     | JMD45VSPF-55-11  | Emergency Switch                    |           | 1   |
| 55-12     | JMD45VSPF-55-12  | Digital Read Out                    |           | 1   |
| 55-13     | TS-2283102       | Phillips Pan Head Machine Screw     | M3x10L    | 4   |
| 55-14     | JMD45VSPF-55-14  | Socket Hd Button Screw              | M3X6L     | 2   |
| 55-15     | JMD45VSPFT-55-15 | Terminal                            |           | 3   |
| 55-16     | JMD45VSPF-55-16  | Side Plate                          |           | 1   |
| 55-17     | JMD45VSPF-55-17  | Terminal                            |           | 2   |
| 55-18     | TS-2171012       | Phillips Pan Head Machine Screw     | M4x6      | 2   |
| 55-19     | JMD45VSPF-55-19  | Inverter                            | RFVF-26D  | 1   |
| 55-20     | TS-1532032       | Phillips Pan Head Machine Screw     | M4x10L    | 4   |
| 55-21     | JMD45VSPF-55-21  | Copper Grounding Plate              |           | 1   |
| 55-22     | TS-2284082       | Phillips Pan Head Machine Screw     | M4x8L     | 8   |
| 55-23     | TS-0733031       | Lock Washer, Ext Tooth              | #10 (M5)  | 4   |
| 55-24     | JMD45VSPF-55-24  | Relay                               | 24V       | 3   |
| 55-25     | JMD45VSPF-55-25  | Fixed Plate                         |           | 2   |
| 55-26     | JMD45VSPF-55-26  | Transformer                         |           | 1   |
| 55-27     | JMD45VSPF-55-27  | Switch bracket                      |           | 1   |
| 55-28     | JMD45VSPF-55-28  | Main Power w/ Lock Key              | 48x48     | 1   |
| 55-29     | SR-PG11          | Strain Relief                       | PG11      | 2   |
| 55-30     | JMD45VSPF-55-30  | Fan                                 | 110V      | 1   |
| 55-31     | SR-PG9           | Strain Relief                       | PG-9      | 2   |
| 55-32     | SR-PG8           | Strain Relief                       | PG-8      | 1   |
| 55-35     | TS-2283102       | Phillips Pan Head Machine Screw     | M3x10L    | 2   |
| 55-36     | JMD45VSPF-55-36  | Sensor                              |           | 1   |
| 55-37     | JSH275-43-1      | Phillips Pan Head Machine Screw     | M3x16L    | 2   |
| 55-38     | JMD45VSPFT-55-38 | Control Panel for JMD-45VSPFT       |           | 1   |
| 55-39     | JMD45VSPF-55-39  | Fuse Bracket                        |           | 1   |
| 55-40     | JMD45VSPF-55-40  | Fuse                                | 0.5A 2CM  | 1   |
| 55-41     | 2SS-3C-01701     | Phillips Pan Head Machine Screw     | M4x40L    | 4   |
| 55-42     | TS-1540021       | Hex Nut                             | M4        | 4   |
| 55-43     | JMD45VSPF-55-43  | Motor Cord                          |           | 1   |
| 55-44     | JMD45VSPFT-55-44 | Limit Switch Wire                   | 0.75X2C   | 1   |
| 55-45     | JMD45VSPFT-55-45 | Control Cable                       |           | 1   |
| 55-46     | JMD45VSPF-55-46  | Power Cord                          | SJT 14x3C | 1   |

# 13.0 Electrical Connections, JMD-45VSPF series

## 13.1 Wiring Diagram for JMD-45VSPF



## 13.2 Wiring Diagram for JMD-45VSPFT



## 14.0 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 |

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