

JET

EQUIPMENT & TOOLS

OPERATOR'S MANUAL

JMD Series Mill / Drills



(JMD-18 shown with optional CS-18 stand)

JET EQUIPMENT & TOOLS, INC.
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No. M-350019 09/00

Important Information

**1-YEAR
LIMITED WARRANTY**

**JET offers a one-year limited
warranty on this product**

REPLACEMENT PARTS

Replacement parts for this tool are available directly from JET Equipment & Tools. To place an order, call 1-800-274-6848. Please have the following information ready:

1. Visa, MasterCard, or Discover Card number
2. Expiration date
3. Part number listed within this manual
4. Shipping address other than a Post Office box.

REPLACEMENT PART WARRANTY

JET Equipment & Tools makes every effort to assure that parts meet high quality and durability standards and warrants to the original retail consumer/purchaser of our parts that each such part(s) to be free from defects in materials and workmanship for a period of thirty (30) days from the date of purchase.

PROOF OF PURCHASE

Please retain your dated sales receipt as proof of purchase to validate the warranty period.

LIMITED TOOL AND EQUIPMENT WARRANTY

JET makes every effort to assure that its products meet high quality and durability standards and warrants to the original retail consumer/purchaser of our products that each product be free from defects in materials and workmanship as follows: 1 YEAR LIMITED WARRANTY ON THIS JET PRODUCT. Warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities or to a lack of maintenance. JET LIMITS ALL IMPLIED WARRANTIES TO THE PERIOD SPECIFIED ABOVE FROM THE DATE THE PRODUCT WAS PURCHASED AT RETAIL. EXCEPT AS STATED HEREIN, ANY IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS ARE EXCLUDED. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG THE 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. To take advantage of this warranty, the product or part must be returned for examination, postage prepaid, to an authorized service station designated by our Auburn office. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection discloses a defect, JET will either repair or replace the product or refund the purchase price, if we cannot readily and quickly provide a repair or replacement, if you are willing to accept such refund. JET will return repaired product or replacement at JET's expense, but if it is determined there is no defect, or that the defect resulted from causes not within the scope of JET's warranty, then the user must bear the cost of storing and returning the product. This warranty gives you specific legal rights, and you have other rights, which vary, from state to state.



WARNING

Read and understand the entire contents of this manual before attempting set-up or operation of this mill/drill.

- **This machine is designed and intended for use by properly trained and experienced personnel only.** If you are not familiar with the proper safe use of mill/drills, do not use this machine until proper training and knowledge has been obtained.
- **Keep guards in place.** Safety guards must be kept in place and in working order.
- **Remove adjusting keys and wrenches.** Before turning on machine, check to see that any adjusting wrenches are removed from the tool.
- **Reduce the risk of unintentional starting.** Make sure switch is in the OFF position before plugging in the tool.
- **Do not force tools.** Always use a tool at the rate for which it was designed.
- **Use the right tool.** Do not force a tool or attachment to do a job for which it was not designed.
- **Maintain tools with care.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubrication and changing accessories.
- **Always disconnect the tool from the power source before adjusting or servicing.**
- **Check for damaged parts.** Check for alignment of moving parts, breakage of parts, mounting, and any other condition that may affect the tools operation. A guard or any part that is damaged should be repaired or replaced.
- **Turn power off. Never leave a tool unattended.** Do not leave a tool until it comes to a complete stop.
- **Keep work area clean.** Cluttered areas and benches invite accidents.
- **Do not use in a dangerous environment.** Do not use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
- **Keep children and visitors away.** All visitors should be kept a safe distance from the work area.
- **Make the workshop child proof.** Use padlocks, master switches, and remove starter keys.
- **Wear proper apparel.** Loose clothing, gloves, neckties, rings, bracelets, or other jewelry may get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair. Do not wear any type of glove.
- **Always use safety glasses.** Every day glasses only have impact resistant lenses; they are not safety glasses.
- **Do not overreach.** Keep proper footing and balance at all times.
- **Do not place hands near the cutterhead while the machine is operating.**
- **Do not perform any set-up work while machine is operating.**
- **Read and understand all warnings posted on the machine.**
- **This manual is intended to familiarize you with the technical aspects of this mill/drill.** It is not, nor was it intended to be, a training manual.
- **Failure to comply with all of these warnings may result in serious injury.**

Specifications:**JMD-15/18/18PFN**

Stock Number:	
JMD-15	350017
JMD-18	350018
JMD-18PFN	350020
Drilling Capacity:	
JMD-15	1"
JMD-18/18PFN	1-1/4"
Face Mill Capacity:	
JMD-15	2-1/2"
JMD-18/18PFN	3"
End Mill Capacity:	
JMD-15	1/2"
JMD-18/18PFN	3/4"
Swing:	
All Models	15-7/8"
Maximum Distance Spindle to Table:	
JMD-15	15"
JMD-18	18"
JMD-18PFN	26"
Spindle Taper:	
All Models	R-8
Spindle Travel:	
JMD-15	3-1/2"
JMD-18	5"
JMD-18PFN	4-1/4"
Quill Diameter:	
JMD-15	2-1/2"
JMD-18/18PFN	3"
Head Swivel:	
All Models	360°
Column Diameter:	
JMD-15	3-5/8"
JMD-18/18PFN	4-1/2"
Number of Power Downfeeds (JMD-18PFN only)	3
Range Of Power Downfeeds (JMD-18PFN only) .....	.004", .007", .01"
Number of Spindle Speeds:	
All Models	12
Range of Spindle Speeds:	
JMD-15	110 - 2,580 RPM
JMD-18/18PFN	150 - 3,000 RPM
Maximum Table Travel:	
JMD-15	14"
JMD-18/18PFN	24"
Cross Travel:	
JMD-15	6"
JMD-18/18PFN	7"
Working Surface of Table:	
JMD-15	7-1/2" x 23"
JMD-18/18PFN	9-1/2" x 32"
Number of T-Slots:	
All Models	4

T-Slot Size:	
JMD-15	9/16"
JMD-18/18PFN	5/8"
T-Slot Centers:	
JMD-15	1-1/2"
JMD-18/18PFN	2-1/16"
Overall Dimensions:	
JMD-15	36-1/2"L x 37-1/2"W x 35-1/2"H
JMD-18	42-1/2"L x 39-3/4"W x 43-1/2"H
JMD-18PFN	42-1/2"L x 39-3/4"W x 51-1/2"H
Base Dimensions:	
JMD-15	12-1/2" x 19-3/4"
JMD-18/18PFN	15-3/4" x 23-3/4"
Motor (UL Listed):	
JMD-15	1 HP, 1Ph, 115V
JMD-18/18PFN	2 HP, 1Ph, 230V only
Net Weight (approx.):	
JMD-15	440 Lbs.
JMD-18	660 Lbs.
JMD-18PFN	700 Lbs.
Shipping Weight (approx.):	
JMD-15	540 Lbs.
JMD-18	760 Lbs.
JMD-18PFN	800 Lbs.

The specifications in this manual are given as general information and are not binding. JET Equipment and Tools reserves the right to effect, at any time and without prior notice, changes or alterations to parts, fittings, and accessory equipment deemed necessary for any reason whatsoever.

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Contents of the Shipping Container

1 Mill/Drill

Accessory Package:

- 1 Chuck Arbor (installed)
- 1 1/2" Drill Chuck w/ Chuck Key
- 1 Adjustable Carbide Facemill
- 1 Facemill Arbor
- 2 Bolts, Nuts, and Washers to Attach Vise to Table
- 1 2-1/2" Angle Vise (JMD-15)
- 1 3-1/2" Angle Vise (JMD-18/18PFN)
- 3 Handle Rods
- 3 Plastic Knobs
- 1 3/8"x1" Hex Socket Cap Screw
- 1 3/8" Washer
- 1 Crank Body
- 1 Crank Handle
- 1 3mm Hex Wrench
- 1 5mm Hex Wrench
- 1 23mm Hex Socket Wrench (JMD-18/18PFN)
- 3 Hand Wheels w/ Handles
- 1 Can Touch-Up Paint
- 1 Operator's Manual
- 1 Warranty Card

Unpacking and Clean-up

1. Finish removing the crate from the mill/drill. Unbolt the machine from the crate bottom. Report shipping damage, if any, to your distributor.
2. Remove any protective coating with kerosene or a mild solvent. Do not use gasoline, paint thinner, or lacquer thinner. These will damage painted surfaces.

Tools Needed for Assembly

8" Adjustable Wrench or 1/4" to 1-1/4" Combination Wrench Set

Assembly

1. Screw plastic knob (A, Fig. 1) onto handle shaft (B, Fig. 1). Screw handle shaft into downfeed hub (C, Fig. 1) and tighten. Flat spot on shaft accommodates a combination or adjustable wrench. **Note:** Handle shafts are already installed into hub on JMD-18PFN.
2. Repeat for other two shaft assemblies.
3. Slide crank (A, Fig. 2) onto shaft and tighten set screw (B, Fig. 2). Be sure set screw seats on flat part of shaft.
4. Insert handle (C, Fig. 2) into crank and tighten.
5. Slide handwheel (A, Fig. 3) onto table handwheel shaft and tighten set screw. Insert handle (B, Fig. 3) into handwheel and tighten.
6. Repeat for two remaining table hand wheels.

Installation

WARNING

Machine is heavy! Use an appropriate lifting device and use extreme caution when moving the machine to its final location. Failure to comply may cause serious injury!

1. The location for the mill/drill should be well lit, dry, and have room enough to allow the head to rotate 360°.
2. Place nylon slings with a load rating exceeding the weight of the mill/drill around the head so that the sling will not damage any parts when tensioned. See Fig. 4.
3. Carefully lift the mill/drill to a sturdy stand or work bench. For best performance, through bolt the mill/drill to a bench or stand.
4. Before bolting the mill/drill to a bench or stand, the unit must be level in both directions. Place a level on the table in both directions.
5. If the table is not level, shim under the low corner (s) until level. Tighten the fastening bolts. Check for level again. Adjust as necessary until

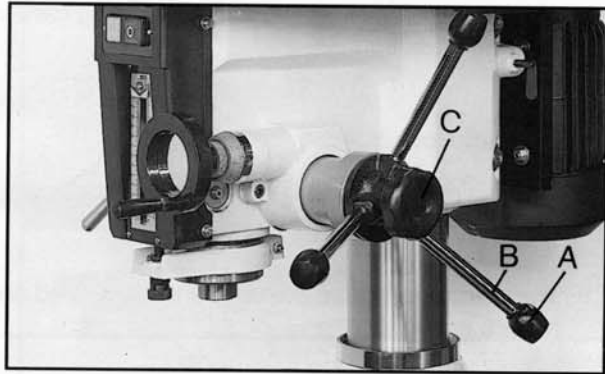


Fig. 1

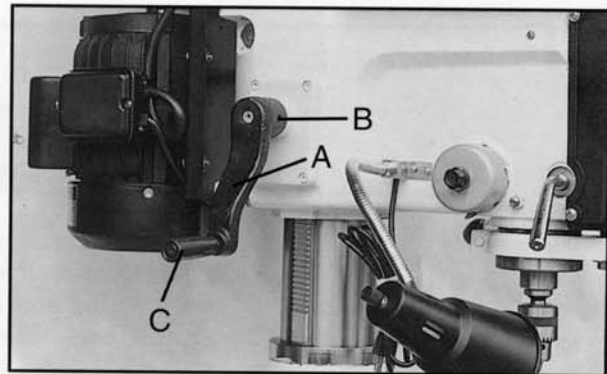


Fig. 2

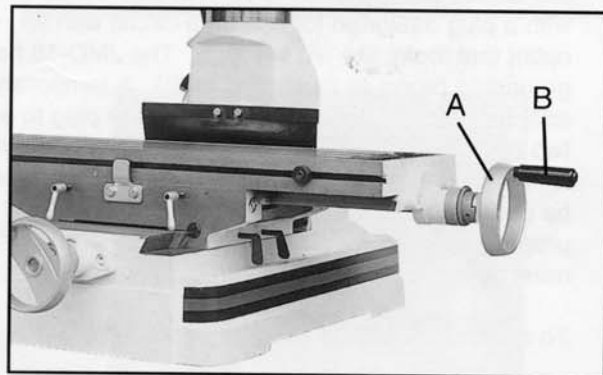


Fig. 3

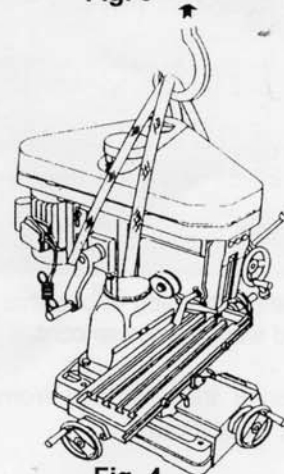


Fig. 4

the mill/drill is level after the fastening hardware has been tightened.

Lubrication

Lubricate all ball oilers on the machine once daily with 20W machine oil.

The spindle bearings are permanently sealed and require no lubrication.

Electrical Connections

WARNING

**A qualified electrician must do all electrical connection!
Failure to comply may cause serious injury!**

Before making any electrical connections, make sure the power source available is compatible with the machine. Also, press the Off switch on the front of the machine before connecting to the power source.

The JMD-15 is rated at 115/230V and comes from the factory prewired at 115V. This mill/drill comes with a plug designed for use on a circuit with an outlet that looks like (A) in Fig. 5. The JMD-15 has a grounding prong as illustrated in (B). A temporary adapter (C) may be used to connect the plug to a two pole receptacle (D) if a properly grounded outlet is not available. The temporary adapter should only be used until a qualified electrician can install a properly grounded outlet. The green colored plug must be securely fastened to the cover plate screw.

To switch the JMD-15 to 230V operation:

1. **Disconnect the machine from the power source.**
2. Remove the junction box cover on the motor.
3. Change the wires according to the diagram on the inside of the junction box cover.
4. Replace the junction box cover.
5. Change the plug to one that is rated 230V or hard wire the power cord.
6. Change the overload from 18A to 10A Specification.

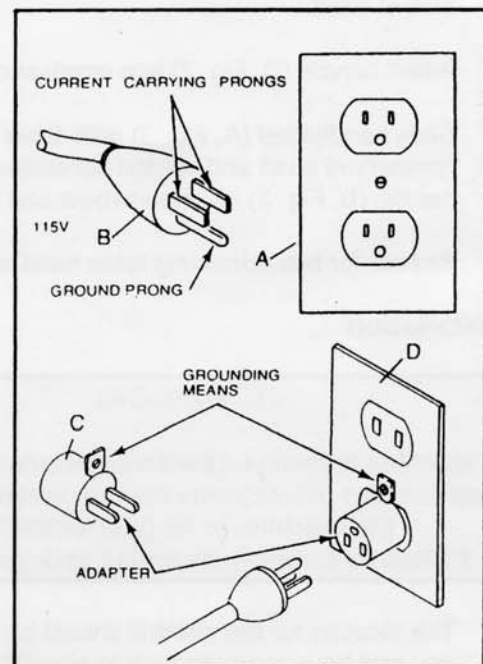


Fig. 5

The JMD-18/18PFN is rated at 230V only. Again, be sure the power source is compatible with the mill/drill before connecting to the power source.

⚠ WARNING

To prevent electrical shock, machines must be connected to a power source that is properly grounded.

Controls

Longitudinal Hand Wheels (X-axis)(A, Fig. 6) - located on either side of the table. Moves table side to side.

Cross Feed Hand Wheel (Y-axis) (B, Fig. 6) - located on the front of the base. Moves table toward or away from the column.

Adjustable Table Stops (C, Fig. 6) - located on table front. Adjust to stop table at any setting along the longitudinal axis.

Table Locks (D & E, Fig. 6) - longitudinal table (D, Fig. 5) locks are located on front of the table. Cross-feed table locks (E, Fig. 6) are located on the right side under the table. Turn clockwise to lock .

Depth Stop (A, Fig. 7 - JMD-18) or (A, Fig. 8 - JMD-15) - located on the left side (JMD-15) or center (JMD-18) of the quill assembly. Set knurled nuts (JMD-15) or turn knurled knob (JMD-18) or set the depth stop on the power down feed assembly (JMD-18PFN) to desired depth for repetitive drilling to the same depth.

Downfeed Handle (B, Fig. 7) - located on the right side of the head casting. Counter-clockwise movement advances the quill toward the table. Return spring retracts the handle.

Fine Feed Hand Wheel (C, Fig. 7) - located on the front of the head casting. To activate, turn the power feed speed range dial to zero and pull the down feed handles away from the column.

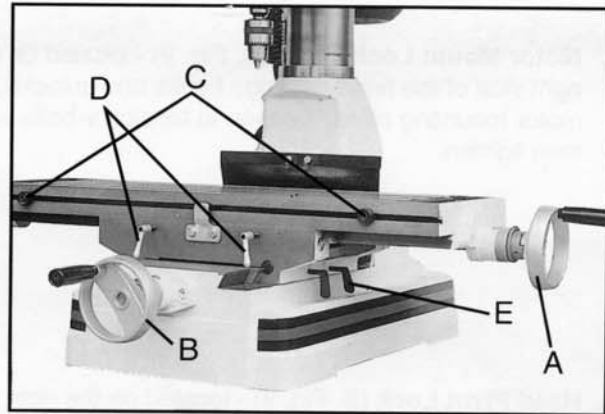


Fig. 6

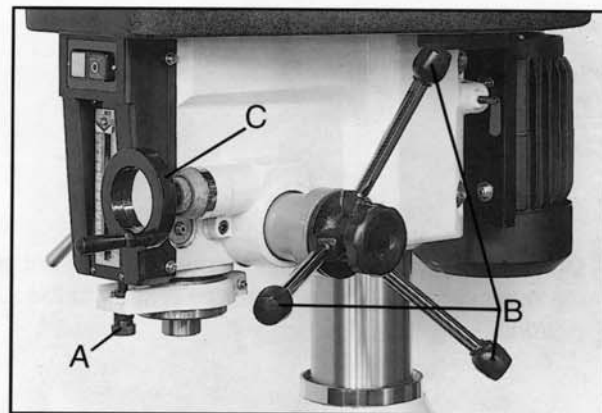


Fig. 7



Fig. 8

Motor Mount Lock Lever (A, Fig. 9) - located on the right side of the head casting. Locks and unlocks the motor mounting plate. Loosen to tension v-belts and then tighten.

Head Pivot Lock (B, Fig. 9) - located on the right rear of the head casting. Loosen two hex nuts to rotate the head 360°. Tighten two hex nuts to lock the head.

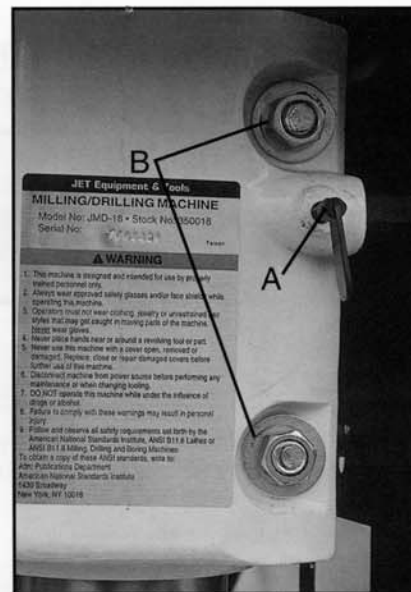


Fig. 9

On-Off Switch (A, Fig. 10) - located on the front of the head casting. Turns power on and off to the mill/drill.

Quill Lock Handle (B, Fig. 10) - located on the front left of the head casting. Turn clockwise to lock the quill in the desired position. Turn counter-clockwise to release.

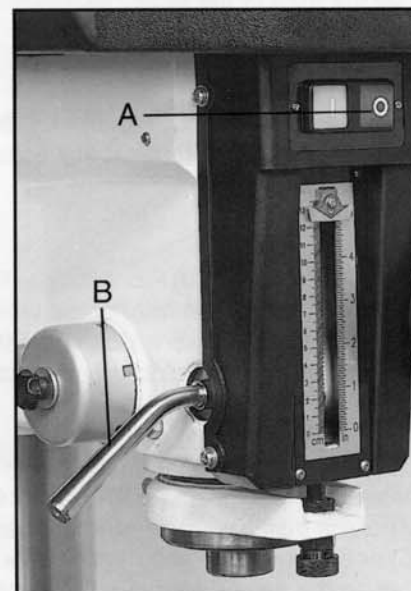


Fig. 10

Head Elevating Crank Handle (A, Fig. 11) - located at left rear of head casting. Loosen head pivot lock nuts (B, Fig. 8) and turn handle clockwise to raise head on the column and counter-clockwise to lower head.

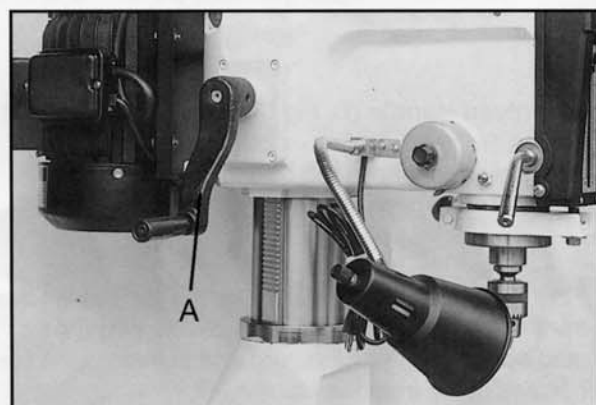


Fig. 11

Operation

WARNING

Always disconnect the machine from the power source before making any repair, adjust, or when installing or removing tooling!
Failure to comply may cause serious injury!

WARNING

Never open belt cover with the machine running!
Failure to comply may cause serious injury!

WARNING

This machine is designed and intended for use by properly trained and experienced personnel only! If you are not familiar with the proper and safe use of mill/drills, do not use this machine until proper training and knowledge have been obtained!
Failure to comply may cause serious injury!

Changing Spindle Speeds

1. Disconnect the machine from the power source.
2. Release two catches on the belt cover and open.
3. Loosen the motor mount lock lever (A, Fig. 9) and pull the motor toward the head casting to release tension on the v-belts.
4. Arrange the v-belts on the pulleys for the desired speed according to the speed chart on the inside of the belt cover.
5. Tension the v-belts by pushing the motor away from the head casting and locking the motor mount lock lever.

Arbor Replacement

1. Disconnect machine from the power source.
2. Release latches on belt cover and open.
3. Hold the spindle pulley (A, Fig. 12) with one hand (to keep the pulley from moving) while loosening the drawbar (B, Fig. 12) with the other using a wrench.

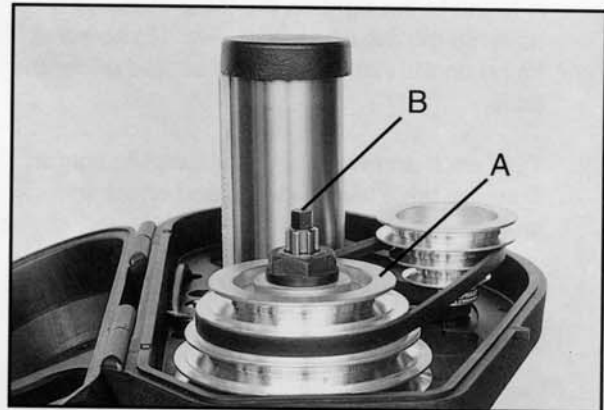


Fig. 12

- Loosen the drawbar approximately three to four full turns.
- Tap the drawbar head with a rubber mallet to dislodge the arbor.

⚠ CAUTION

Do not loosen the drawbar more than three or four turns before hitting with a rubber mallet. Damage to the drawbar threads may occur.

- Grasp the arbor with one hand while loosening the draw bar with the other. Continue to loosen the drawbar until the arbor can be withdrawn from the spindle.
- Place the new arbor into the spindle nose. Thread the drawbar into the arbor and tighten the drawbar with a wrench while holding on to the spindle pulley.

⚠ WARNING

**Use caution when tightening drawbar! Do not allow hand to get pinched between pulley and belt!
Failure to comply may cause serious injury!**

Gib Adjustment

After a period of time, movement of the table over the ways will cause normal wear. To adjust the gibs for this wear:

- The horizontal gib adjustment screw (A, Fig. 13) is found to the right on the table face. The traverse gib adjustment (B, Fig. 13) screw is found on the right side of the saddle under the table.
- Turn each screw slightly clockwise to tighten. Turn the table hand wheels and check the tension.
- Re-adjust as required.

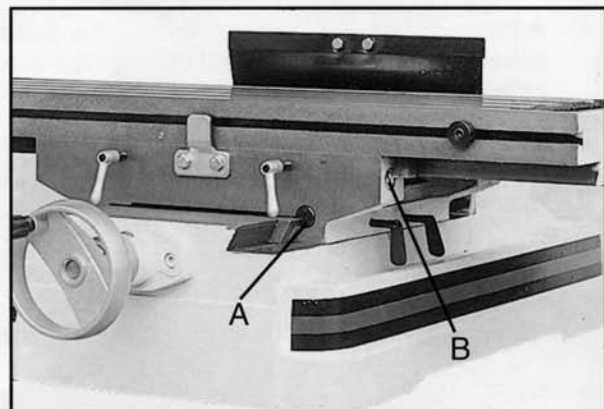


Fig. 13

Power Feed Operation (JMD-18PFN only)

⚠ Caution

**Make all power feed settings with power to the machine turned off!
Failure to comply may cause damage to the machine!**

1. Set the power feed speed range dial (A, Fig. 14) to the desired rate.
2. Set the depth stop to the desired setting by lowering the quill to the desired depth and holding in place. Turn the collar (B, Fig. 14) counter-clockwise until zero is indicated and then tighten the lock handle (C, Fig. 14)
3. Start the mill/drill and pull one of two handles (D, Fig. 14) away from the column to start the power downfeed.
4. Once the downfeed has reached the depth stop, the trip will release and the spindle will retract.
5. To stop the feed before the cycle has ended or to disengage the fine feed (E, Fig. 14), press one of two handles toward the column.

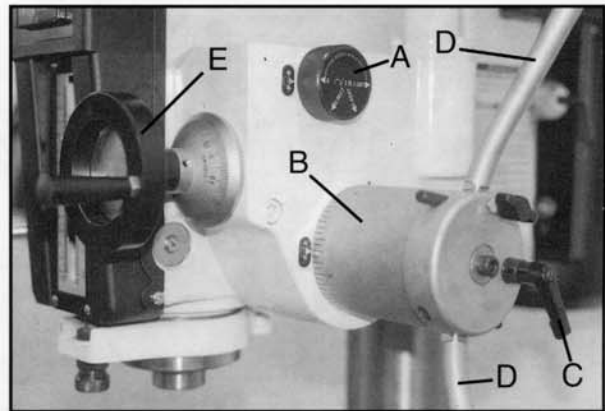
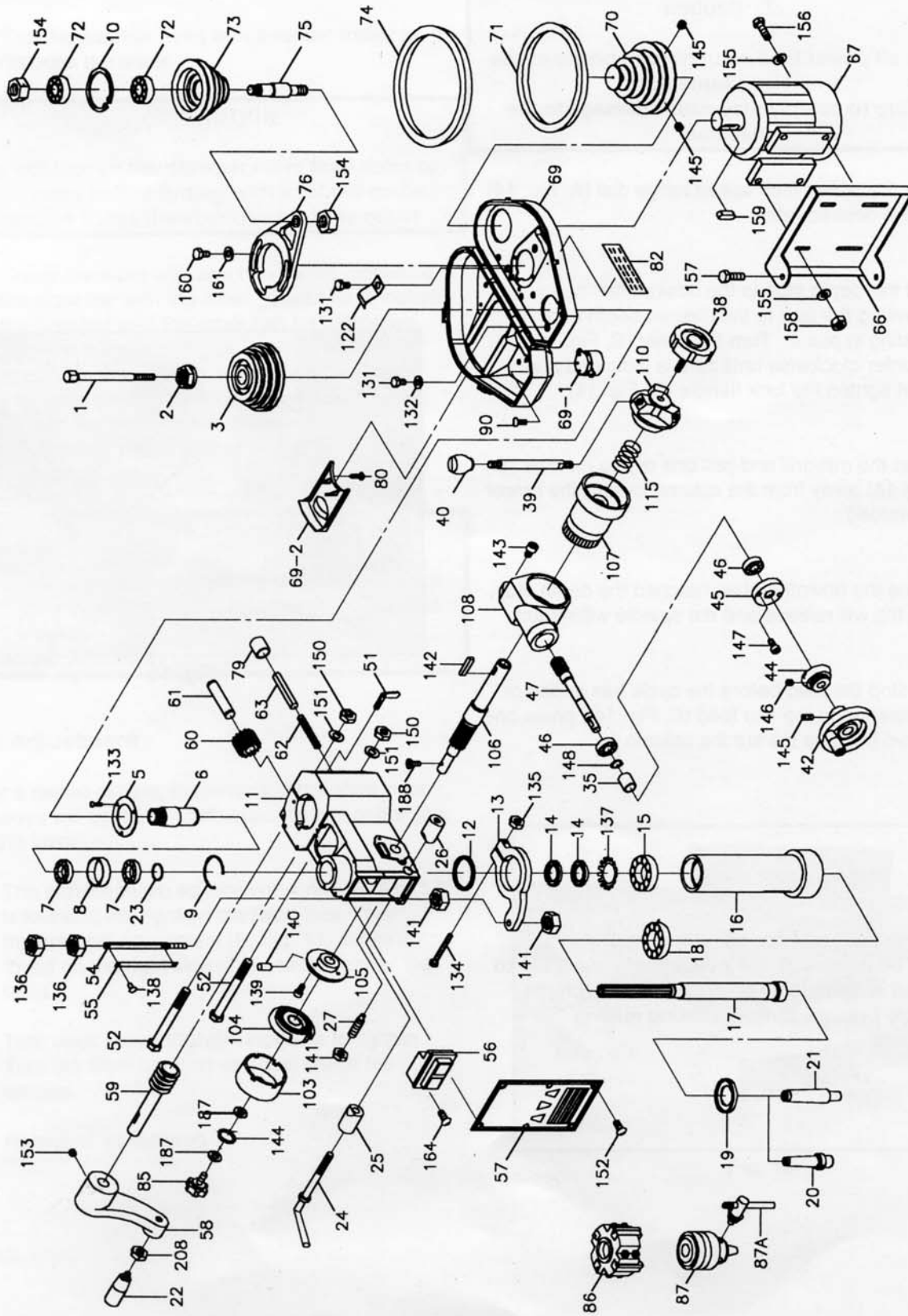


Fig. 14

Note: For best results, all milling operations should be done with the quill/spindle as close to the head assembly as possible. Lock spindle and table in place before starting milling operations.

JMD-15 Head Assembly



Parts List for the JMD-15 Mill/Drill

Head Assembly

Index No.	Part No.	Description	Size	Qty.
1	JMD15-001	Arbor Bolt (drawbar)		1
2	JMD15-002	Spindle Lock Nut		1
3	JMD15-003	Spindle Pulley		1
5	JMD15-005	Outer Bearing Plate		1
6	JMD15-006	Spindle Taper Sleeve		1
7	BB-6007ZZ	Ball Bearing		2
8	JMD15-008	Bearing Spacer		1
9	JMD15-009	C-Ring		1
10	JMD18-010	C-Ring		1
11	JMD15-011	Head		1
12	JMD15-012	Rubber Flange		1
13	JMD15-013	Feed Base		1
14	JMD15-014	Lock Nut		2
15	BB-30205	Taper Roller Bearing		1
16	JMD15-016	Rack Sleeve		1
17	JMD15-017	Spindle Shaft		1
18	BB-30206	Taper Roller Bearing		1
19	JMD15-019	Bearing Cap		1
20	JMD15-020	Cutting Arbor		1
21	JMD15-021	Chuck Arbor		1
22	JMD18-022	Handle		1
23	JMD15-023	Retainer Ring		1
24	JMD15-024	Lock Handle		1
25	JMD15-025	Fixed Collar		1
26	JMD15-026	Fixed Collar Thread		1
27	JMD15-027	Screw Key	3/8	1
35	JMD18-035	Bearing Spacer		1
38	JMD18-038	Lock Bolt w/ Knob		1
39	JMD18-039	Handle Rod		3
40	JMD18-040	Knob		3
42	JMD18-042	Feed Handle Wheel		1
44	JMD18-044	Micro Adjusting Indicator		1
45	JMD18-045	Worm Cover		1
46	BB-6202Z	Ball Bearing		2
47	JMD18-047	Worm Shaft		1
51	JMD18-051	Leaf Screw		1
52	JMD15-052	Head Lock Bolt	1/2x7	2
54	JMD15-054	Graduated Rod and Dial		1
55	JMD15-055	Graduated Dial(re:JMD15-054)		1
56	JMD15-056A	Switch		1
57	JMD15-057	Name Plate		1
58	JMD15-058	Head Handle		1
59	JMD15-059	Worm Shaft		1
60	JMD15-060	Worm		1
61	JMD15-061	Shaft		1
62	JMD18-062	Compression Spring		1

63	JMD15-063	Pin		1
66	JMD15-066	Motor Mount		1
67	JMD15-067	Motor		1
	JMD15-067A	Capacitor (Not Shown)		1
69	JMD15-069	Belt Cover (ser.#8040225 and lower)		1
	JMD15-069P	Belt Cover (ser.#8040226 and higher)		1
69-1	JMD15-069A	Upper Belt Cover Cap (ser.#8040225 and lower)		1
	JMD15-069P1	Upper Belt Cover Cap (ser.#8040226 and higher)		1
69-2	JMD15-069B	Upper Belt Cover Plate (ser.#8040225 and lower)		1
	JMD15-069P2	Upper Belt Cover Plate (ser.#8040226 and higher)		1
70	JMD15-070	Motor Pulley		1
71	VB-A31	V-Belt		1
72	BB-6204Z	Ball Bearing		2
73	JMD15-073	Inter Pulley		1
74	VB-A38	V-Belt		1
75	JMD15-075	Inter Pulley Shaft (ser.#8040225 and lower)		1
	JMD15-075P	Inter Pulley Shaft (ser.#8040226 and higher)		1
76	JMD15-076	Speed Change Inter Pulley Base (ser.#8040225 and lower)		1
	JMD15-076P	Speed Change Inter Pulley base (ser.#8040226 and higher)		1
79	JMD18-079	Rubber Collar		1
85	JMD18-085	Screw w/ Plumb Knob		1
86	JMD15-086	Cutter		1
	JMD15-086A	Cutter Insert (not shown)		4
87	JMD15-087	Drill Chuck		1
87A	JMD15-087A	Chuck Key		1
90	JMD15-090	Tap Screw		2
103	JMD18-103	Spring Cover		1
104	JMD18-104	Spring		1
105	JMD18-105	Spring Base		1
106	JMD15-106	Pinion Shaft		1
107	JMD18-107	Worm Gear		1
108	JMD18-108	Feed Cover		1
110	JMD18-110	Spring Base		1
115	JMD18-115	Spring		1
122	JMD18-077	Clip Plate		1
131	TS-081B12	Pan Head Screw	1/4x1/2	5
132	TS-0680021	Washer	1/4	5
133	JMD18-133	Round Head Screw	1/4x3/8	3
134	TS-0050091	Hex Head Bolt	1/4x2	1
135	TS-0561011	Hex Nut	1/4	1
136	TS-0561051	Hex Nut	1/2	2
137	JMD15-137	Lock Washer		1
138	JMD15-138	Rivet		2
139	JMD18-139	Round Head Screw	3/16x3/4	3
140	JMD18-140	Spring Pin	3x12	2
141	TS-0561031	Hex Nut	3/8	3
142	JMD18-142	Key	7x7x20	1
143	TS-0208041	Hex Socket Cap Screw	5/16x3/4	2
144	TS-0680021	Washer	1/4	1
145	TS-0270021	Set Screw	5/16x5/16	3
146	TS-0267031	Set Screw	1/4x5/16	1
147	JMD18-147	Round Head Screw	3/16x1/2	2
148	JMD18-148	C-Retainer Ring		1
150	TS-0561051	Hex Nut	1/2	2

151	TS-0680061	Washer	1/2	2
152	JMD15-152	Round Head Screw	1/4x3/8	6
153	TS-0271061	Set Screw	3/8x5/8	1
154	TS-0561071	Hex Nut	5/8	2
155	TS-0680031	Washer	5/16	8
156	TS-0051051	Hex Head Bolt	5/16x1	4
157	TS-0060011	Hex Head Bolt	3/8x1/2	2
158	TS-0561021	Hex Nut	5/16	4
159	JMD18-159	Key	7x7x40	1
160	TS-0051071	Hex Head Bolt	5/16x1-1/2	2
161	TS-0680031	Washer	5/16	2
164	JMD15-164	Round Head Screw	M3x15	2
187	TS-0680011	Washer	1/4	2
188	JMD18-188	Pan Head Screw	3/16x3/8	1
208	TS-0561031	Hex Nut	3/8	1

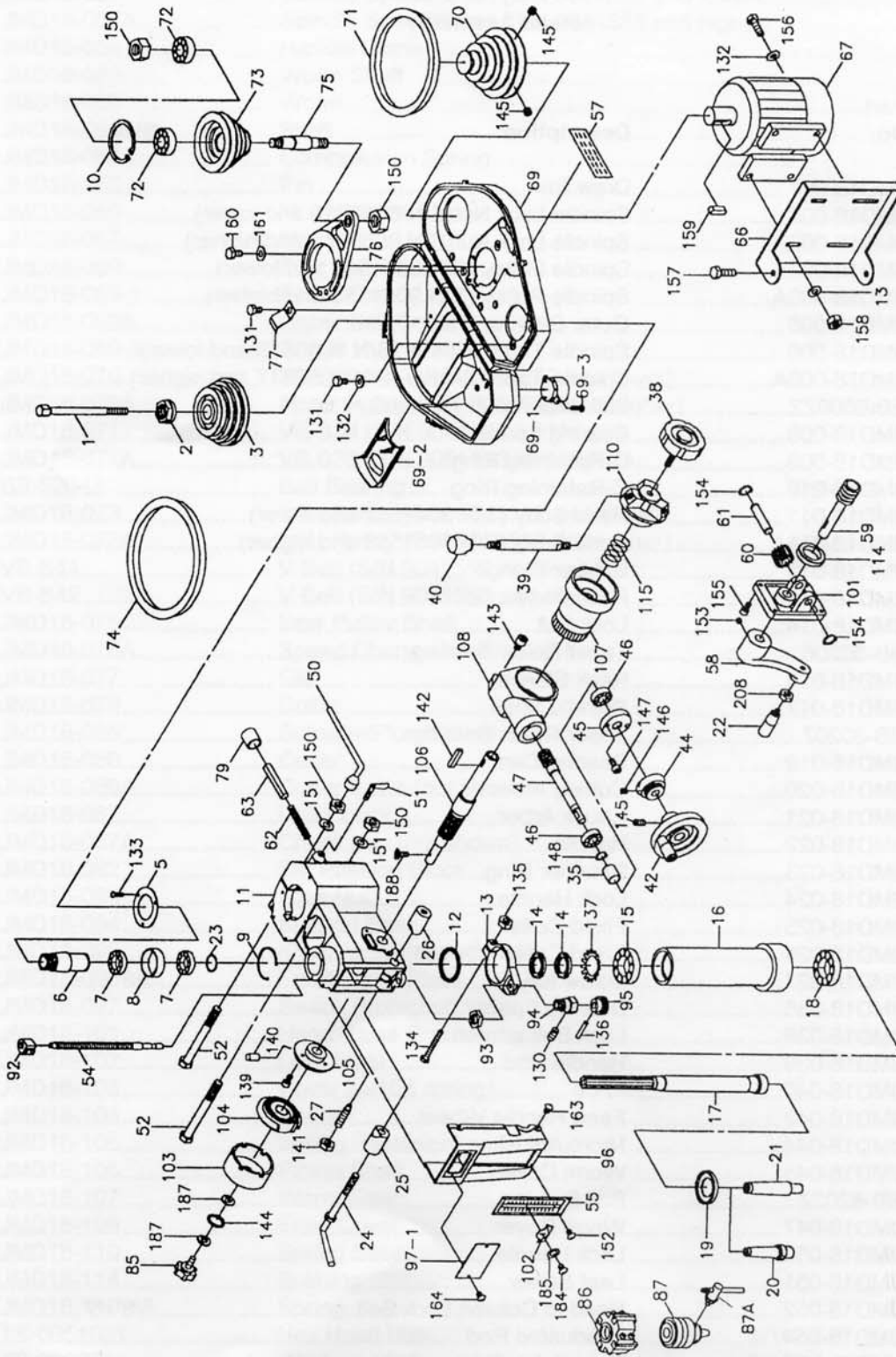
JMD-15 Table, Base, and Column Assembly

1	JMD18-201	Table Hand Wheel		3
1-1	JMD18-201-1	Bolt		3
1-2	JMD18-201-2	Handle		3
1-3	JMD18-201-3	Nut		3
2	JMD18-202	Dial Clutch		2
2-1	JMD18-202-1	Graduated Dial		2
3	BB-51103	Thrust Bearing		4
4	JMD15-204	Square Flange		1
4-2	JMD18-204-2	Rivet		4
5	JMD15-205	Table Screw		1
6	JMD15-206	Base		1
7	JMD15-207	Gib Strip		1
8	JMD15-208	Column Base		1
9	JMD15-209	Column Flange Ring		1
10	JMD15-210	Rack		1
11	JMD15-211	Column Head		1
12	JMD15-212	Adjustment Screw		2
13	JMD15-213	Leaf Screw		2
13-1	JMD15-213-1	Locking Handle		2
14	JMD15-214	Block		1
15	JMD15-215	Table Base Nut		1
16	JMD15-216	Center Base		1
17	JMD15-217	Antidust Plate		1
19	JMD18-219	Bracket Plate		1
20	JMD18-220	Table Clutch		1
22	JMD15-222	Left Flange		1
23	JMD18-223	Table Nut		1
24	JMD15-224	Table Screw		1
26	JMD15-226	Right Flange		1
27	JMD15-227	Gib Strip		1
28	JMD15-228	Table		1
29	JMD18-229	Block		2
30	JMD18-230	Ring		2
121	JMD15-121	Indicator Plate		2
143	TS-0207021	Hex Socket Cap Screw	1/4x1/2	2
145	TS-0270021	Set Screw	5/16x5/16	1
166	JMD18-366	Spring Pin		3
167	JMD18-367	Zero Indicator w/ Screw	1/4x3/8	2
168	JMD18-368	Oil Ball		5
169	TS-0208041	Hex Socket Cap Screw	3/8x3/4	8
175	TS-0061071	Hex Head Bolt	7/16x2	4
178	TS-0208111	Hex Cap Bolt	5/16x2-1/4	1
179	TS-0051011	Hex Cap Bolt	5/16x1/2	6
180	TS-1502041	Hex Socket Cap Screw	M5x16	2
189	TS-0267041	Set Screw	1/4x3/8	3
	JMD15-AP	Accessory Package (Not Shown) *		1

*** Contents of the Accessory Package (JMD15-AP):**

.....JMD15-020.....	Cutter Arbor.....	.....	1
.....JMD15-039.....	Handle.....	.....	3
.....JMD15-040.....	Knob.....	.....	3
.....JMD15-087.....	Drill Chuck.....	.....	1
.....JMD15-086.....	Cutter.....	.....	1
.....365534.....	Angle Vise.....	.....	1
.....JMD15-022.....	Handle.....	.....	4
.....JMD15-201.....	Wheel.....	.....	3
.....JMD15-058.....	Handle Crank.....	.....	1
.....MP-007.....	Paint.....	.....	1
.....TS-152704.....	3mm Hex Wrench.....	.....	1
.....TS-152705.....	4mm Hex Wrench.....	.....	1
.....TS-152706.....	5mm Hex Wrench.....	.....	1
.....JMD15-381.....	Washer.....	.....	1
.....JMD15-380.....	Hex Bolt.....	.....	1
.....JMD15-377.....	Hex Bolt.....	.....	2
.....JMD15-378.....	Hex Nut.....	.....	2
.....JMD15-379.....	Washer.....	.....	2
.....MP-007.....	Touch Up Paint.....	.....	1
.....TS-0071011.....	Hex Cap Bolt.....	5/8x1-1/2.....	3
.....TS-0680081.....	Flat Washer.....	5/8.....	3
.....TS-0561071.....	Hex Nut.....	5/8.....	3

JMD-18/18PFN Head Assembly



Parts List for the JMD-18 /18PFN Mill/Drill

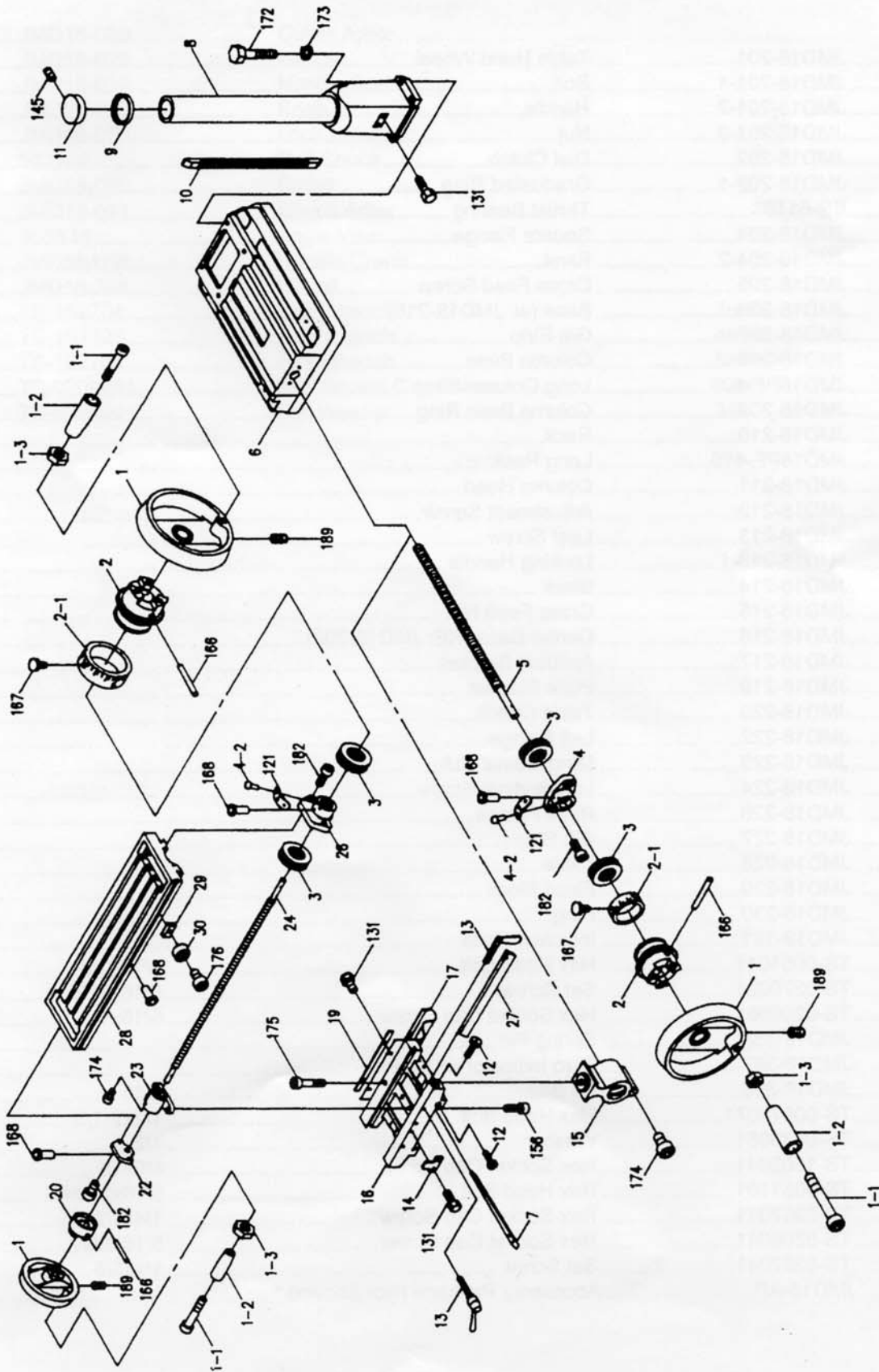
Head Assembly

Index No.	Part No.	Description	Size	Qty.
1	JMD18-001	Draw Bar		1
2	JMD18-002	Spindle Lock Nut(S/N 8050816 and lower)		1
	JMD18-002A	Spindle Lock Nut(S/N 8050817 and higher)		1
3	JMD18-003	Spindle Pulley (S/N 9041552 and lower)		1
	JMD18-003A	Spindle Pulley (S/N 9051553 and higher)		1
5	JMD18-005	Outer Bearing Plate		1
6	JMD18-006	Spindle Taper Sleeve (S/N 8050816 and lower)		1
	JMD18-006A	Spindle Taper Sleeve (S/N 8050817 and higher)		1
7	BB-6009ZZ	Ball Bearing		2
8	JMD18-008	Bearing Spacer		1
9	JMD18-009	C-Retaining Ring		1
10	JMD18-010	C-Retaining Ring		1
11	JMD18-011	Head Body (S/N 9041552 and lower)		1
	JMD18-011A	Head Body (S/N 9051553 and higher)		1
12	JMD18-012	Rubber Flange		1
13	JMD18-013	Feed Base		1
14	JMD18-014	Lock Nut		2
15	BB-30206	Taper Roller Bearing		1
16	JMD18-016	Rack Sleeve		1
17	JMD18-017	Spindle Shaft		1
18	BB-30207	Taper Roller Bearing		1
19	JMD18-019	Bearing Cap		1
20	JMD18-020	Cutting Arbor		1
21	JMD18-021	Chuck Arbor		1
22	JMD18-022	Handle		1
23	JMD18-023	Retainer Ring		1
24	JMD18-024	Lock Handle		1
25	JMD18-025	Fixed Collar		1
26	JMD18-026	Fixed Collar (Thread)		1
27	JMD18-027	Screw Key	3/8"	1
35	JMD18-035	Bearing Spacer		1
38	JMD18-038	Lock Bolt w/knob		1
39	JMD18-039	Handle Rod		3
40	JMD18-040	Knob		3
42	JMD18-042	Feed Handle Wheel		1
44	JMD18-044	Micro Adjusting Indicator		1
45	JMD18-045	Worm Cover		1
46	BB-6202Z	Ball Bearing		2
47	JMD18-047	Worm Cover		1
50	JMD18-050	Lock Handle		1
51	JMD18-051	Leaf Screw		1
52	JMD18-052	Head to Column Lock Bolt	5/8"x6"	2
54	JMD18-054	Graduated Rod		1
55	JMD18-055	Faceplate (S/N:xxx2331 and lower)		1
	JMD18-055AN	Faceplate (S/N:0062332 and higher)		1
	JMD18-PFN-55	Faceplate		1

56.....	JMD18-056	Switch (S/N:205088 and lower).....	1
.....	JMD18-056A	Switch (Between S/N:205089 and S/N:xxx2331).....	1
.....	JMD18-056AN	Switch (S/N:0062332 and higher).....	1
57	JMD18-057	Spindle Speed Chart (S/N 9041552 and lower).....	1
.....	JMD18-057A	Spindle Speed Chart (S/N 9051553 and higher).....	1
58	JMD18-058	Handle Crank.....	1
59	JMD18-059	Worm Shaft.....	1
60	JMD18-060	Worm.....	1
61	JMD18-061	Shaft.....	1
62	JMD18-062	Compression Spring.....	1
63	JMD18-063	Pin.....	1
66	JMD18-066	Motor Mount.....	1
67	JMD18-067	Motor.....	1
69	JMD18-069	Poly Belt Cover.....	1
69-1	JMD18-069-1	Cover Cap.....	1
69-2	JMD18-069A	Upper Belt Cover Section.....	1
69-3	JMD18-069-3	Screw.....	2
70	JMD18-070	Motor Pulley (S/N 9041552 and lower).....	1
.....	JMD18-070A	Motor Pulley (S/N 9051553 and higher).....	1
71	JMD18-071	VB-B34 (S/N 9041552 and lower).....	2
.....	JMD18-071A	VB-B33 (S/N 9051553 and higher).....	1
72	BB-6204Z	Ball Bearing.....	1
73	JMD18-073	Inter Pulley (S/N 9041552 and lower).....	1
.....	JMD18-073A	Inter Pulley (S/N 9051553 and higher).....	1
74	VB-B41	V-Belt (S/N 9041552 and lower).....	1
.....	VB-B42	V-Belt (S/N 9051553 and higher).....	1
75	JMD18-075	Inter Pulley Shaft.....	1
76	JMD18-076A	Speed Change Inter Pulley Base.....	1
77	JMD18-077	Clip.....	1
79	JMD18-079	Collar.....	1
85	JMD18-085	Screw w/Plumb Knob.....	1
86	JMD18-086	Cutter.....	1
.....	JMD18-086A	Cutter Insert (not shown).....	4
87	JMD18-087	Drill Chuck.....	1
.....	JMD18-087A	Chuck Key (not shown).....	1
92	JMD18-092	Set Position Block.....	1
93	JMD18-093	Lock Nut.....	1
94	JMD18-094	Support Base.....	1
95	JMD18-095	Knob (w/136 spring pin).....	1
96	JMD18-096	Front Cover Plate.....	1
97	JMD18-097	Switch Protection.....	1
101	JMD18-101	Head Raise Bracket.....	1
102	JMD18-102	Limit Plate.....	1
103	JMD18-103	Cover (w/104 spring).....	1
104	JMD18-104	Spring.....	1
105	JMD18-105	Spring Base.....	1
106	JMD18-106	Pinion Shaft.....	1
107	JMD18-107	Worm Gear.....	1
108	JMD18-108	Feed Cover.....	1
110	JMD18-110	Spring Base.....	1
114	JMD18-114	Bushing.....	1
115	JMD18-115	Spring.....	1
131	TS-0051021	Hex Head Bolt.....	5/16"x5/8" 5
132	TS-0680311	Washer.....	5/16" 12
133	JMD18-133	Round Head Screw.....	1/4"x3/8" 3

134	TS-0050091	Hex Head Bolt	1/4"x2"	1
135	TS-0561011	Hex Nut	1/4"	1
136	JMD18-136	Spring Pin (re :JMD18-095)		1
137	JMD18-137	Lock Washer		1
139	JMD18-139	Round Head Screw	3/16"x3/4"	3
140	JMD18-140	Spring Pin		2
141	TS-0561031	Hex Nut	3/8"	1
142	JMD18-142	Key	7x7x20mm	1
143	TS-0208041	Hex Socket Cap Screw	5/16"x3/4"	2
144	TS-0680021	Washer	1/4"x1"	1
145	TS-0270021	Set Screw	5/16"x5/16"	3
146	TS-0267031	Set Screw	1/4"x5/16"	1
147	JMD18-147	Round Head Screw	3/16"x1/2"	2
148	JMD18-148	C-Retainer Ring		1
150	TS-0561071	Hex Nut	5/8"	4
151	TS-0680081	Washer	5/8"	2
152	JMD18-152	Tap Screw	1/8"x3/8"	4
153	TS-0271061	Set Screw	3/8"x5/8"	1
154	JMD18-154	C-Retaining Ring		2
155	TS-0207061	Hex Socket Cap Screw	1/4"x1"	4
156	TS-0051051	Hex Head Bolt	5/16"x1"	4
157	TS-0061011	Hex Head Bolt	7/16"x3/4"	2
158	TS-0561021	Hex Nut	5/16"	4
159	JMD18-159	Key	7x7x37mm	1
160	TS-0051071	Hex Head Bolt	5/16"x1-1/2"	2
161	TS-0680031	Washer	5/16"	2
163	JMD18-163	Round Head Screw	1/4"x1/2"	4
164	JMD18-164	Round Head Screw	M3x15	2
184	JMD18-184	Round Head Screw	5/32"x1/4"	1
185	JMD18-185	Washer	5/32"	1
187	JMD18-187	Lock Washer	1/4"	2
188	JMD18-188	Pan Head Screw	3/16"x3/8"	1
208	TS-0561031	Hex Nut	3/8"	1

JMD-18/18PFN Table, Base, and Column Assembly



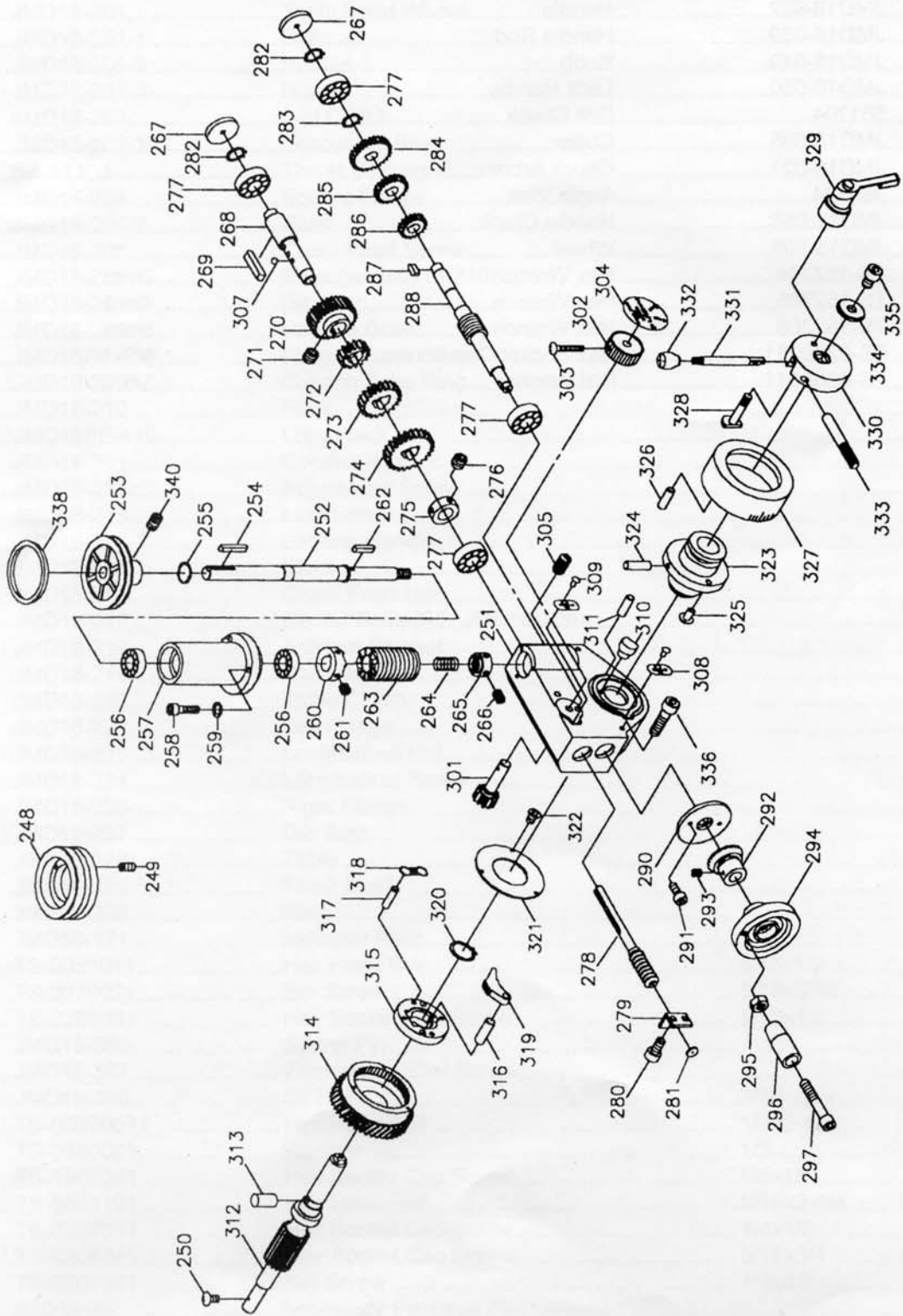
JMD-18/18PFN Table, Base, and Column Assembly

1	JMD18-201	Table Hand Wheel	3	
1-1	JMD18-201-1	Bolt	3	
1-2	JMD18-201-2	Handle	3	
1-3	JMD18-201-3	Nut	3	
2	JMD18-202	Dial Clutch	2	
2-1	JMD18-202-1	Graduated Ring	2	
3	BB-51103	Thrust Bearing	4	
4	JMD18-204	Square Flange	1	
4-2	JMD18-204-2	Rivet	4	
5	JMD18-205	Cross Feed Screw	1	
6	JMD18-206	Base (w/ JMD18-216)	1	
7	JMD18-207	Gib Strip	1	
8	JMD18-208	Column Base	1	
	JMD18PF-408	Long Column Base	1	
9	JMD18-209	Column Base Ring	1	
10	JMD18-210	Rack	1	
	JMD18PF-410	Long Rack	1	
11	JMD18-211	Column Head	1	
12	JMD18-212	Adjustment Screw	2	
13	JMD18-213	Leaf Screw	2	
13-1	JMD18-213-1	Locking Handle	2	
14	JMD18-214	Block	1	
15	JMD18-215	Cross Feed Nut	1	
16	JMD18-216	Center Base (RE: JMD18-206)	1	
17	JMD18-217	Antidust Bracket	1	
19	JMD18-219	Plate Bracket	1	
20	JMD18-220	Table Clutch	1	
22	JMD18-222	Left Flange	1	
23	JMD18-223	Longitudinal Nut	1	
24	JMD18-224	Longitudinal Screw	1	
26	JMD18-226	Right Flange	1	
27	JMD18-227	Gib Strip	1	
28	JMD18-228	Table	1	
29	JMD18-229	Fixed Block	2	
30	JMD18-230	Ring	2	
121	JMD18-121	Indicator Plate	2	
131	TS-0051011	Hex Head Bolt	5/16x1/2	6
145	TS-0270021	Set Screw	5/16x5/16	1
156	TS-0208061	Hex Socket Cap Screw	5/16x1	2
166	JMD18-366	Spring Pin		3
167	JMD18-367	Zero Indicator w/ Screw		1
168	JMD18-368	Oil Ball	3/16	5
172	TS-00870071	Hex Head Bolt	1/2x2-1/2	4
173	TS-0680061	Washer	1/2	4
174	TS-1502041	Hex Socket Cap Screw	M5x16	2
175	TS-0051101	Hex Head Bolt	5/16x2-1/4	1
176	TS-0207011	Hex Socket Cap Screw	1/4x1/2	2
182	TS-0208041	Hex Socket Cap Screw	5/16x3/4	6
189	TS-0267041	Set Screw	1/4x3/8	3
	JMD18-AP	Accessory Package (Not Shown) *		1

*** Contents of the 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.....	.....	1
.....JMD18-086.....	Cutter.....	.....	1
.....JMD18-021.....	Chuck Arbor.....	.....	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.....	.....3/8x1.....	1
.....TS-0680041.....	Flat Washer.....	.....3/8.....	1

JMD-18PFN Power Feed Assembly
Old Style Serial # 9041552 and Lower

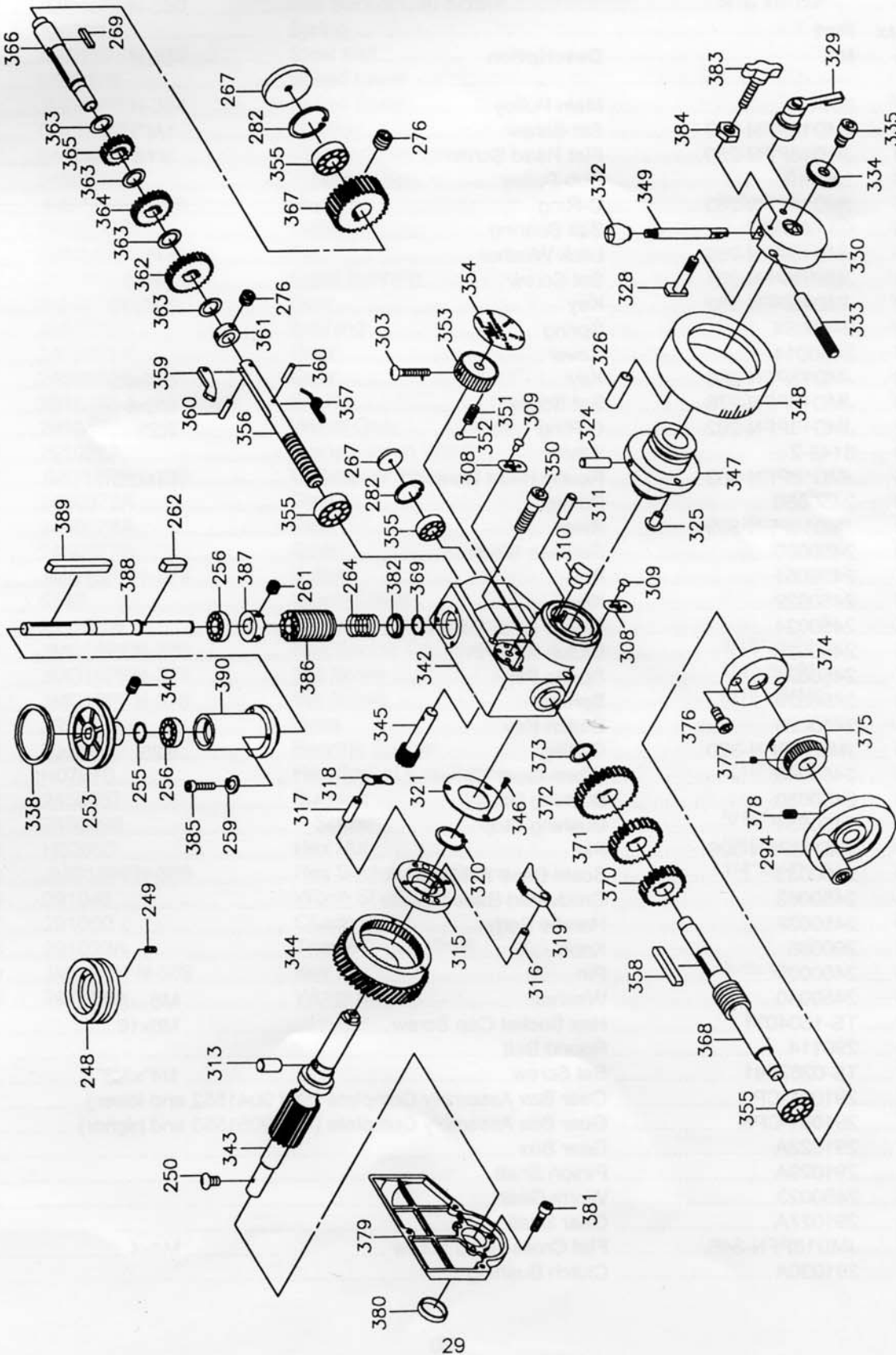


**Parts List for the JMD-18PFN Power Feed Assembly
Old Style Serial # 9041552 and Lower**

Index No.	Part No.	Description	Size	Qty.
248	290111RF	Main Pulley		1
249	JMD18PFN-249	Set Screw	1/4x3/8	2
250	JMD18PFN-250	Flat Head Screw	3/16x3/8	1
251	291001	Gear Box		1
252	291006	Worm Shaft		1
253	290110	Sub-Pulley		1
254	JMD18PFN-254	Key	5x5x35	1
255	JMD18PFN-255	C-Ring		1
256	BB-6003ZZ	Ball Bearing		2
257	291004	Worm Base		1
258	JMD18PFN-258	Hex Socket Cap Screw	M6x20	3
259	JMD18PFN-259	Lock Washer	M6	3
260	291003	Clutch Block		1
261	JMD18PFN-261	Set Screw	M6x6	2
262	JMD18PFN-262	Key	5x5x10	1
263	291002	Worm		1
264	2450054	Spring		1
265	291005	Adjustable Ring		1
266	JMD18PFN-266	Set Screw	M6x6	2
267	2450014	Cover		2
268	2450007	Worm Gear Shaft		1
269	JMD18PFN-269	Key	5x5x25	1
270	291007	Transmission Gear		1
271	JMD18PFN-271	Set Screw	M6x6	2
272	2450012	Pinion Gear		1
273	2450011	Pinion Gear		1
274	2450010	Pinion Gear		1
275	2450013	Fixed Ring		1
276	JMD18PFN-276	Set Screw		2
277	CA6202LLB	Ball Bearing		4
278	2450009	Speed Change Lever		1
279	291008	Stopper		1
280	JMD18PFN-280	Hex Socket Cap Screw	M5x12	2
281	JMD18PFN-281	Cover		1
282	JMD18PFN-282	C-Ring		4
283	JMD18PFN-283	C-Ring		1
284	2450044	Pinion Gear		1
285	2450043	Pinion Gear		1
286	2450042	Pinion Gear		1
287	JMD18PFN-287	Key	5x5x30	1
288	291012	Transmission Worm		1
290	291015	Graduated Bottom Plate		1
291	JMD18PFN-288	Hex Socket Cap Screw	M6x12	2
292	291014	Micro Adjusting Indicator		1
293	JMD18PFN-293	Set Screw	M6x6	1
294	6142-2	Wheel		1

295	JMD18PFN-295	Nut	M8	1
296	JMD18PFN-296	Handle		1
297	JMD18PFN-297	Handle Bar Screw		1
301	291009	Gear Shaft		1
302	2450019	Speed Dial		1
303	JMD18PFN-303	Round Head Screw	M4x25	1
304	JMD18PFN-304	Speed Scale		1
305	2450016	Position Screw		1
307	JMD18PFN-307	Steel Ball		1
308	2450060	Pointer		2
309	JMD18PFN-309	Rivet		4
310	2450020	Release Block		1
311	2450051	Pin		1
312	291010	Pinion Shaft		1
313	2450022	Key		2
314	291011	Transmission Gear		1
315	2450024	Clutch Gear Case		1
316	2450025	Clutch Key Pin		2
317	2450027	Spring Pin		2
318	2450028	Spring		2
319	2450026	Clutch Key		2
320	JMD18PFN-320	C-Ring		1
321	2450048	Worm Gear Cover		1
322	JMD18PFN-322	Round Head Screw	M4x25	3
323	2450029	Clutch Bushing		1
324	2450030	Bushing Pin		1
325	2450031	Bushing Stop		1
326	JMD18PFN-326	Pin		1
327	2450032A	Scale Base		1
328	2450033	Scale Base Set Screw		1
329	2450063	Graduated Base Handle		1
330	2450037	Handle Body		1
331	2450038	Handle Rod		2
332	290086	Knob		2
333	2450039	Pin		2
334	2450040	Washer		1
335	TS-1504031	Hex Socket Cap Screw	M8x16	1
336	JMD18PFN-336	Hex Socket Cap Screw	M10x85	3
338	290114	Round Belt		1
340	TS-0267041	Set Screw	1/4x3/8	1
	291001-CP	Gear Box Assembly Complete		1

**JMD-18PFN Power Feed Assembly
New Style Serial # 9051553 and Higher**

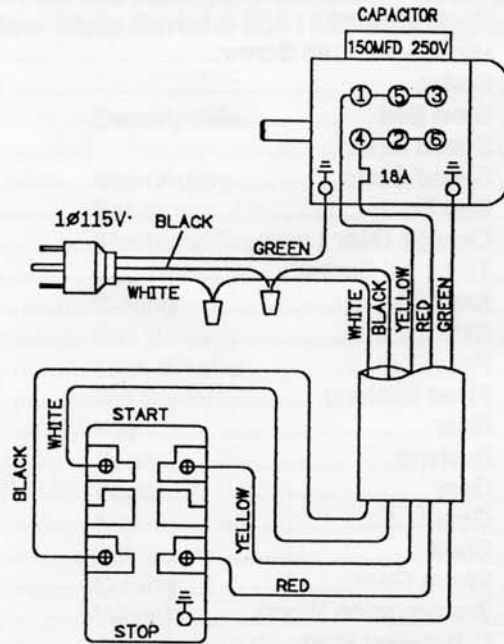


**Parts List for the JMD-18PFN Power Feed Assembly
New Style Serial # 9051553 and Higher**

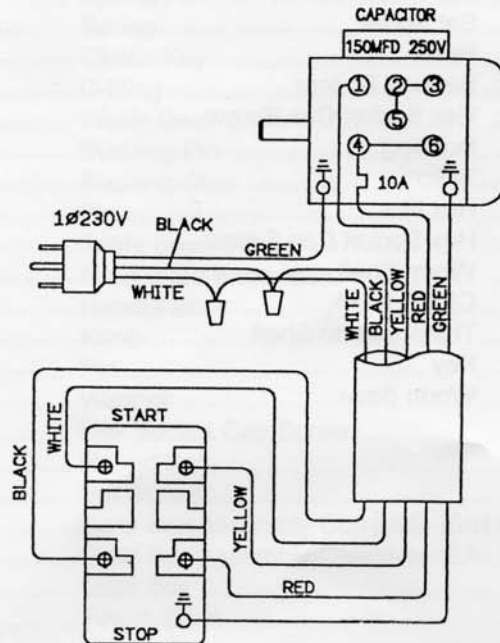
Index No.	Part No.	Description	Size	Qty.
248	290111	Main Pulley		1
249	JMD18PFN-249	Set Screw	1/4"x3/8"	2
250	JMD18PFN-250	Flat Head Screw	3/16"x3/8"	1
253	290110	Sub-Pulley		1
255	JMD18PFN-255	C-Ring	S7	1
256	BB-6003ZZ	Ball Bearing		2
259	JMD18PFN-259	Lock Washer	1/4"	3
261	JMD18PFN-261	Set Screw	M6x6	2
262	JMD18PFN-262	Key	5x5x10	1
264	2450054	Spring		1
267	2450014	Cover		2
269	JMD18PFN-269	Key	5x5x25	1
276	JMD18PFN-276	Set Screw	M6x6	2
282	JMD18PFN-282	C-Ring	R25	4
294	6142-2	Wheel		1
303	JMD18PFN-303	Round Head Screw	M4x25	1
308	2450060	Pointer		2
309	JMD18PFN-309	Rivet		4
310	2450020	Release Block		1
311	2450051	Pin		1
313	2450022	Key		2
315	2450024	Clutch Gear Case		1
316	2450025	Clutch Key Pin		2
317	2450027	Spring Pin		2
318	2450028	Spring		2
319	2450026	Clutch Key		2
320	JMD18PFN-320	C-Ring	S25	1
321	2450048	Worm Gear Cover		1
324	2450030	Bushing Pin		1
325	2450031	Bushing Stop		1
326	JMD18PFN-326	Pin		1
328	2450033	Scale Base Set Screw		1
329	2450063	Graduated Base Handle		1
330	2450037	Handle Body		1
332	290086	Knob		2
333	2450039	Pin		2
334	2450040	Washer	M8	1
335	TS-1504031	Hex Socket Cap Screw	M8x16	1
338	290114	Round Belt		1
340	TS-0267041	Set Screw	1/4"x3/8"	1
	291001-CP	Gear Box Assembly Complete (S/N 9041552 and lower)		1
	291001-CPN	Gear Box Assembly Complete (S/N 9051553 and higher)		1
342	291022A	Gear Box		1
343	291029A	Pinion Shaft		1
344	2450023	Worm Gear		1
345	291027A	Gear Shaft		1
346	JMD18PFN-346	Flat Cross Head Screw	M4x4	3
347	291030A	Clutch Bushing		1

348	2450032A	Scale Base	1
349	2450038	Knob w/ Shaft	2
350	JMD18PFN-350	Hex Socket Cap Screw	5/16"x3-1/2" 3
351	290089	Spring	1
352	JMD18PFN-352	Steel Ball	1
353	2450079	Speed Lever	1
354	JMD18PFN-354	Speed Scale	1
355	CA6003ZZ	Bearing	1
356	2450082A	Change Gear Lever	1
357	2450084B	Torsional Spring	1
358	JMD18PFN-358	Key	5x5x32 1
359	2450083A	Stop	1
360	JMD18PFN-360	Pin	2
361	2450089A	Fixed Bushing	1
362	2450072A	Gear	1
363	2450074A	Bushing	4
364	2450071A	Gear	1
365	2450070A	Gear	1
366	291026A	Shaft	1
367	291047	Worm Gear	1
368	291028A	Transmission Worm	1
369	JMD18PFN-369	C-Retainer Ring	1
370	2450075A	Gear	1
371	2450076A	Gear	1
372	2450077A	Gear	1
373	JMD18PFN-373	C-Ring	1
374	6145	Worm Cover	1
375	291051A	Micro Adjusting Indicator	1
376	JMD18PFN-376	Hex Socket Cap Screw	3/16"x3/8" 2
377	JMD18PFN-377	Set Screw	1/4"x5/16" 1
378	JMD18PFN-378	Set Screw	5/16"x5/16" 1
379	291032A	Base	1
380	291049	Bearing Spacer	1
381	H07070	Hex Socket Cap Screw	5/16"x3/4" 1
382	2450057	Bushing	1
383	2450098	T-Screw	5/16"x3/4" 1
384	H02050	Hex Nut	5/16" 1
385	JMD18PFN-385	Hex Socket Cap Screw	1/4"x3/4" 1
386	291046	Worm Shaft	1
387	291050	Clutch Block	1
388	291023A	Transmission Shaft	1
389	JMD18PFN-389	Key	5x5x45 1
390	291024A	Worm Base	1

Electrical Schematic - JMD-15 (115V)



JMD-15 (230V)



Electrical Schematic – JMD-18/18PFN (230V)

