



836 Milling Machine Operation Manual

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| Table of Contents | Page |
|-----------------------------------|-------------|
| Warnings..... | 3 |
| Specifications | 4 |
| Installation Layout..... | 5 |
| Shipping Container Contents | 6 |
| Unpacking and Clean-Up | 6 |
| Raising the Head | 6 |
| Site Preparation..... | 7 |
| Lifting the Mill..... | 7 |
| Lubrication | 8 |
| Electrical Connections..... | 8 |
| Controls | 9-10 |
| Changing Speeds..... | 10 |
| Position of Ram | 10 |
| Adjustments | 10-11 |
| Parts Lists and Breakdowns..... | 12-23 |

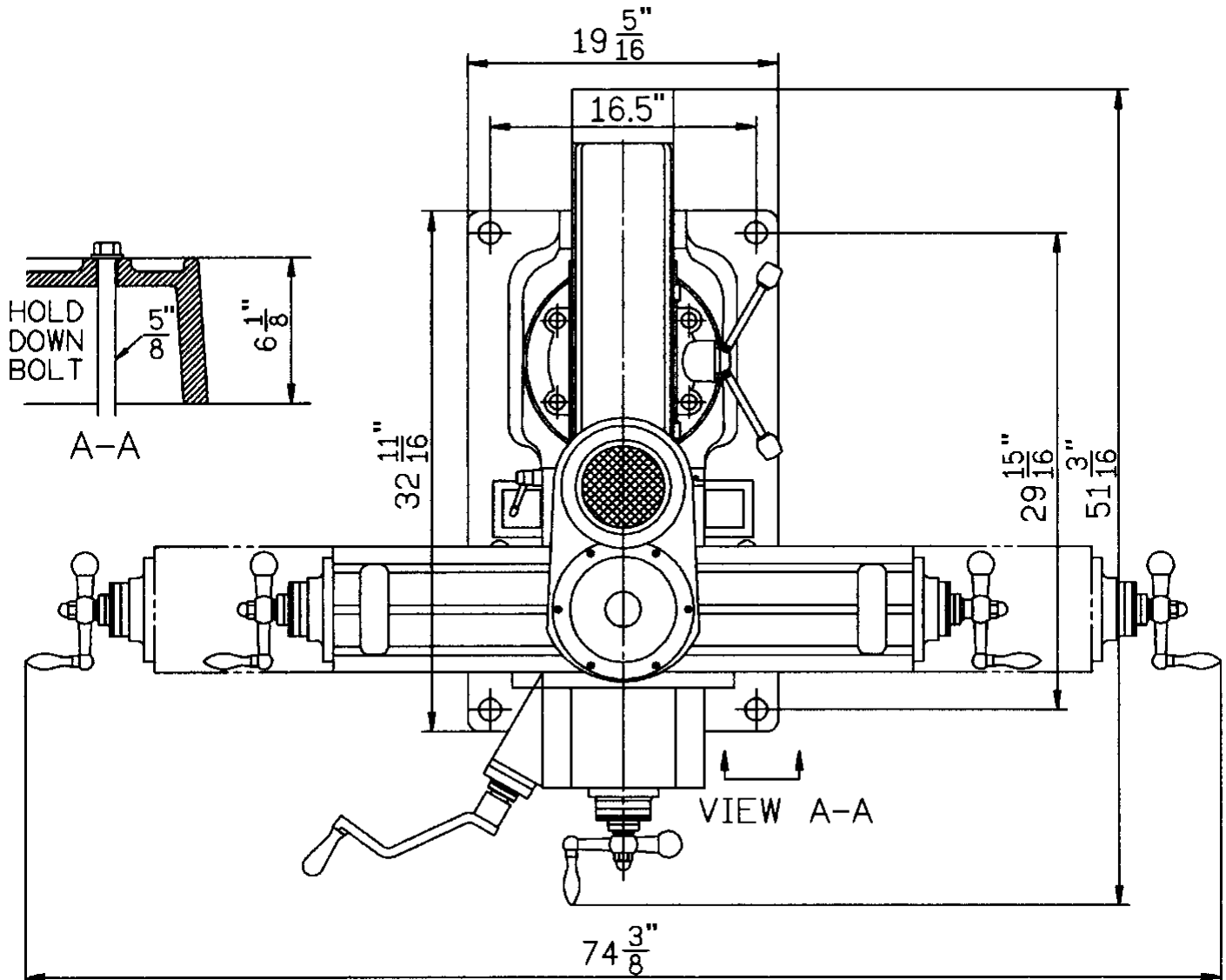
▲ WARNING

1. **Read and understand the entire instruction manual before attempting set-up or operation of this machine.**
2. Always wear approved safety glasses/face shields while using this machine.
3. Make certain the machine is properly grounded.
4. Before operating the machine, remove tie, rings, watches, other jewelry, and roll up sleeves above the elbows. Remove all loose clothing and confine long hair. Do **not** wear gloves.
5. Keep the floor around the machine clean and free of scrap material, oil and grease.
6. Keep machine 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.
7. Do **not** over reach. Maintain a balanced stance at all times so that you do not fall or lean against blades or other moving parts.
8. Make all machine adjustments or maintenance with the machine unplugged from the power source.
9. Use the right tool. Don't force a tool or attachment to do a job which it was not designed for.
10. Replace warning labels if they become obscured or removed.
11. Make certain the motor switch is in the **OFF** position before connecting the machine to the power supply.
12. Give your work undivided attention. Looking around, carrying on a conversation, and "horse-play" are careless acts that can result in serious injury.
13. Keep visitors a safe distance from the work area.
14. Use recommended accessories; improper accessories may be hazardous.
15. Keep hands away from all moving parts (belts, cutters, gears, etc.).
16. Never operate this machine under the influence of alcohol or drugs.
17. Read and understand all warnings posted on the machine.
18. This manual is intended to familiarize you with the technical aspects of this milling machine. It is not, nor was it intended to be, a training manual.
19. 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 milling machines, do not use this machine until proper training and knowledge has been obtained.
20. Failure to comply with all of these warnings may cause serious injury.
21. Some dust created by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
 - Lead from lead based paint.
 - Crystalline silica from bricks and cement and other masonry products, and
 - Arsenic and chromium from chemically treated lumber.
22. Your risk from those exposures 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 those dust masks that are specifically designed to filter out microscopic particles.

Specifications

| | |
|------------------------------|----------------------|
| Drilling Capacity | 13mm |
| End Milling Capacity | 20mm |
| Face Milling Capacity | 75mm |
| Table Size | 200 x 910mm |
| Cross Travel | 240mm |
| Longitudinal Travel | 550mm |
| Vertical Travel | 127mm |
| Spindle Taper | R8 |
| T-slot Size | 16mm |
| Spindle Speeds | 0-2000rpm |
| Headstock Tilt | ±90° |
| Motor | 1.5kW (2hp) |
| Net Weight | 670kg |
| Dimensions (LxWxH) | 1400 x 1300 x 1955mm |

836 Installation Layout



Shipping Container Contents

1. Mill
1. Flat Way Cover (rear)
1. Accordion Way Cover (front)
1. Knee Crank
1. Drawbar

1. Tool Box:
 1. Hex Wrench Set (1.5 - 10mm)
 1. 17/19mm Combination Wrench
 1. #2 Cross Point Screw Driver
 1. #2 Flat Blade Screw Driver
 1. Oil Can
 1. Hand wheel
 1. Adjustable Wrench
 5. Handles for Handwheels
 1. Operator's Manual

Unpacking and Clean-Up

1. Finish removing the sides and top of the crate.
Leave the mill bolted to the skid until it is ready to be moved to its final location.
2. Clean all rust protected surfaces with kerosene or a light solvent. Do not use gasoline, paint thinner, or lacquer thinner. These will damage painted surfaces.
3. Cover all machined surfaces with a film of light machine tool oil to inhibit rust.
4. Remove wood block from below the knee.

Raising the Head

1. Remove handwheel (A, Fig. 1).
2. Loosen four cap nuts (B, Fig.1) ½ turn to unlock the head. **Do not** remove these nuts unless you are prepared to remove the head.
3. Use a 19mm socket and breaker bar on adjusting nut (C, Fig. 1) to rotate the head.

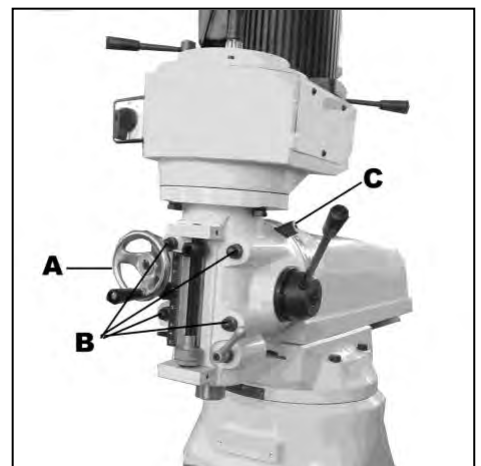
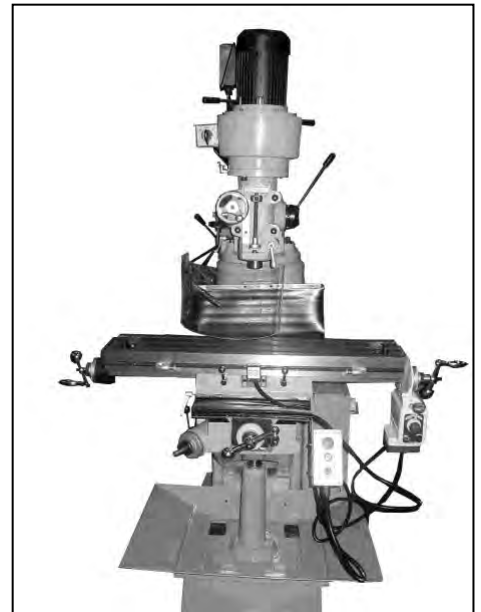


Fig.1

Site Preparation

CAUTION !

Mill must be supported equally under all four corners. Failure to comply may cause the column to twist and put a bind in the bedways.

The mill must be placed on an even surface and bolted to the floor. Anchor bolts of sufficient size and length must be fastened to the floor according to the footprint of the mill. See Installation Layout page 4.

Lifting the Mill

▲ WARNING

Keep people a safe distance away from the milling machine while it is being moved. Failure to comply may cause serious injury!

Lift the mill with appropriate sized lifting straps. Follow the diagram in Fig. 2 for the proper position of the straps under the ram.

FNote the position of the ram, and that the table has been moved against the column. Tighten ram locking bolts (A, Fig. 2) before lifting.

Carefully lift the mill. Move into position over the anchor bolts. Lower the mill onto the anchor bolts. Check for level, and secure with washers and anchor bolt nuts.

Check the mill for level with a machinist's level placed on the table. Mill must be level back to front and side-to-side. Shim if necessary, but remembers that the mill must be supported equally at all four corners. Check for level before tightening the anchor bolt nuts and after tightening them. Adjust as necessary.

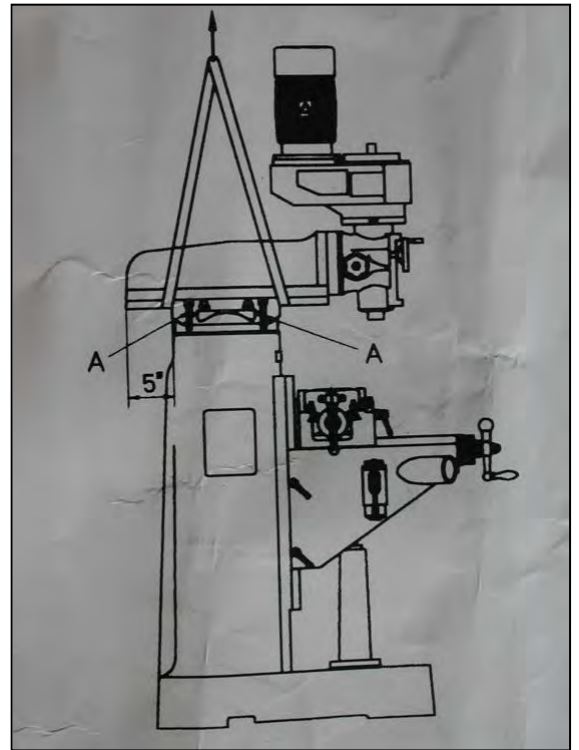


Fig.2

Lubrication

CAUTION !

Do not operate the mill before lubricating the machine fully. Failure to comply may cause damage to the machine.

Reference Fig. 3 for parts of the mill to lubricate:

- A. Spindle Bearings - fill oil cup once daily with Mobil DTE® Oil Light.
- B. Oil Pump - fill reservoir as needed by removing cap on top of tank and filling with Mobil Vactra Oil No. 2. Pump oil with release handle once for every hour of operation. Way surfaces and leadscrews are lubricated in this manner.
- C. Knee Leadscrew - lubricate with Mobilith® AW2 once a week.

Electrical Connections



Warnings

All electrical connections must be made by a qualified electrician! Failure to comply may cause serious injury!

Confirm power at the site matches power requirements of the mill before connecting to the power source.

The mill must be properly grounded.

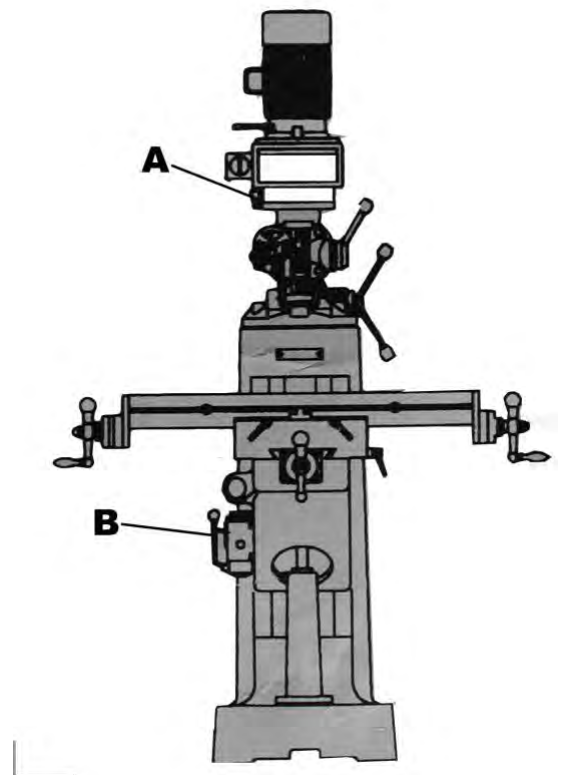


Fig.3

Controls

- A. **Belt Cover Lock Knobs** (A, Fig. 4)-located on the right side of the head. Loosen and remove belt cover to change belt position on the pulleys.
- B. **Spindle Brake** (B, Fig. 4)-located on left side of the head. Move in either direction to stop spindle once power has been turn off.
- C. **Quill Feed Handle** (C, Fig. 4)-located on the right side of the head. Rotate counter-clockwise to lower spindle. Return spring will retract the spindle automatically once the handle is released.
- D. **Quill Lock** (D, Fig. 5)-located on the right side of the head. Rotate the handle clockwise to lock the quill in a desired position. Rotate the handle counter-clockwise to release.
- E. **Micrometer Adjusting Nut** (E, Fig. 4)-located on the front of the head. Use for setting specific spindle depth.
- F. **Manual Fine Feed** (F, Fig. 4)-located on the left side of the head. Must engage fine feed (I, Fig. 5) for hand wheel to function.
- G. **Quill Stop** (G, Fig. 4)-located on the front of the head. Used in conjunction with micrometer adjusting nut for predetermined depth.
- H. **Reversing Switch** (H, Fig. 5)-located on the left side of the head. Switches rotation of spindle. For 3 Ph motor there is an additional low and high-speed option.
- I. **Fine Feed Engagement** (I, Fig. 5)-located

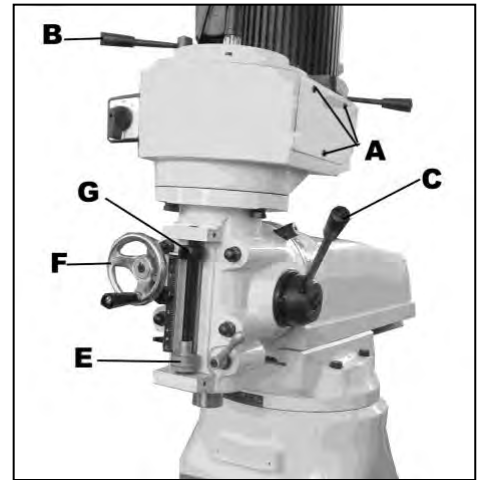


Fig.4

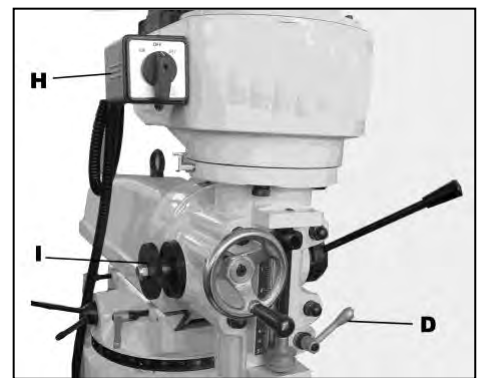


Fig.5

on the left side of the head. Turn clockwise until tight. This engages the manual fine feed.

- J. **Longitudinal Movement** (J, Fig. 6)-handles located on opposite ends of the table. This controls the X-axis.
- K. **Cross Movement** (K, Fig. 6)-handle located directly in front of the machine. This controls the Y axis.
- L. **Knee Handle** (L, Fig. 6)-this raises the table up and down.

Changing Speeds

1. Unscrew two knobs (A, Fig. 4) and remove belt cover.
2. Loosen hex nut (A, Fig. 7).
3. Take the tension off the belt by moving handle (B, Fig. 7).
4. Use the RPM chart to place the belt in the desired position.
5. Place tension on the belt by moving handle.
6. Tighten hex nut.
7. Always replace the belt cover!

Position of Ram

CAUTION!
Care should be taken to lock ram securely after setting.

Ram can be moved by loosening two handles (A, Fig. 8), and turning handle (B, Fig. 8) to desired position.

Note: It is recommended while doing heavy milling work the head should be left as close to face of turret as possible as maximum rigidity is then obtained.

Adjustments

1. **Knee Gib Adjustment**-(#53, page 19) adjust gib screw (#18, page 19) below wiper on the left side of the knee for proper travel and excess play.

Note: when adjusting the gibs always start with the knee. Adjust the saddle second, and adjust the table last.

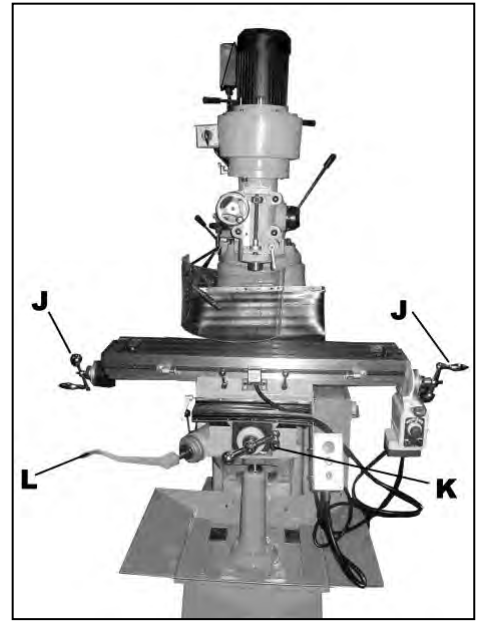


Fig.6

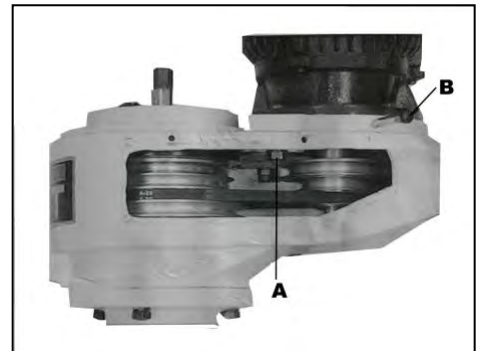


Fig.7

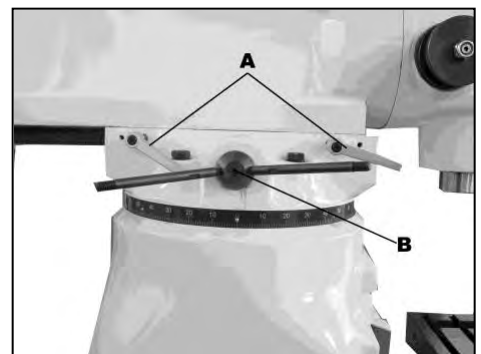
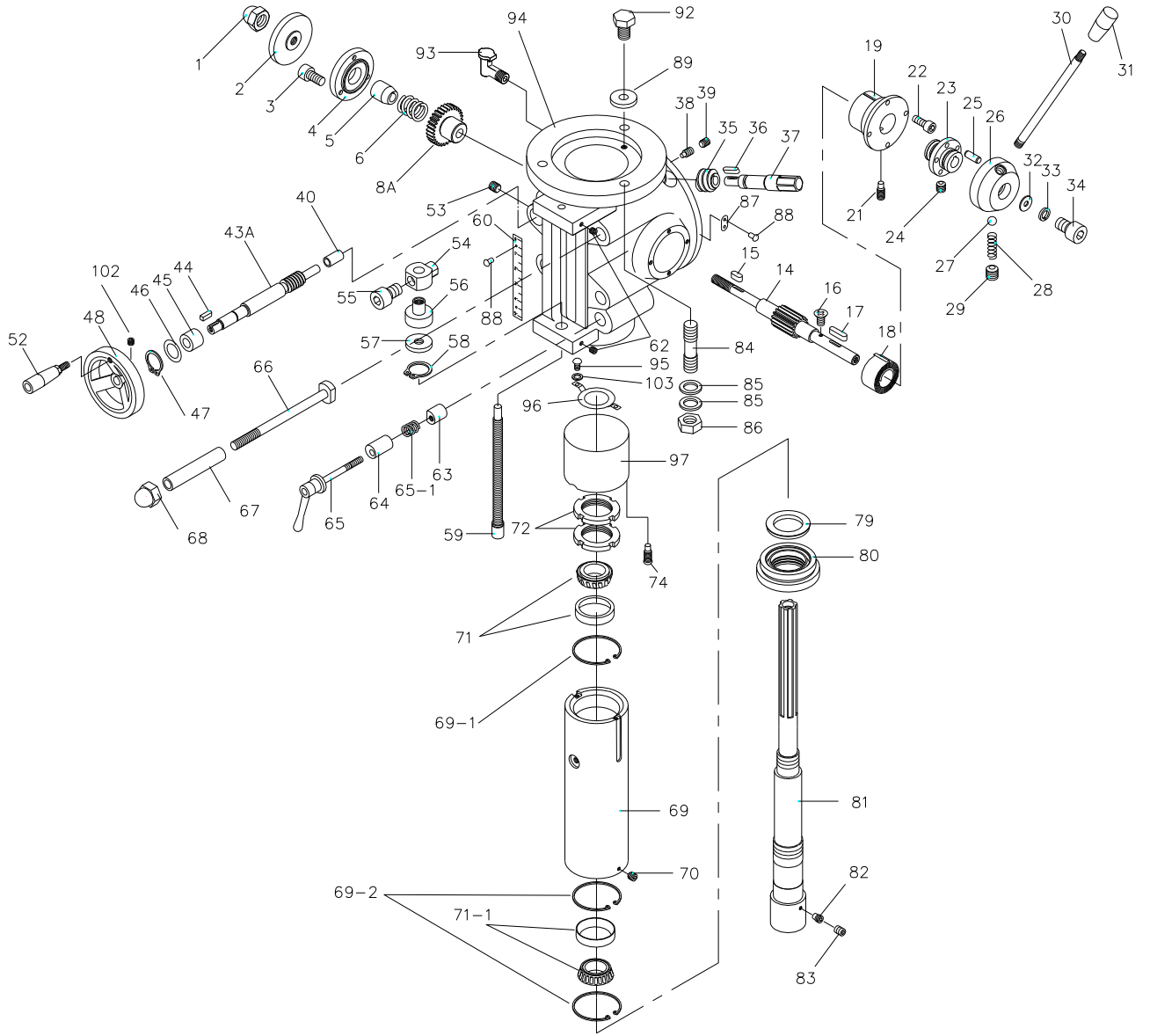


Fig.8

2. **Saddle Gib Adjustment**-(#47, page 19)
adjust gib screw (#18, page 19) found on the right side front of the carriage for proper travel and excess play.
3. **Table Gib Adjustment**-(#45, page 17)
adjust gib screw (#18, page 17) found on the left side of the table toward the front of the carriage for proper travel and excess play.
4. **Ram Ware Plate**-(#10, page 19) adjust two set screws (#19, page 19) found on the side of the ram for proper travel.
5. **Head Alignment**-the scales on the ram adapter and head rotation are guides only. Close tolerance work will require the use of a dial indicator to make sure the head is 90° to the table in the X axis.
6. **Longitudinal & Cross feed Adjustment**-if there is excessive backlash in the handle.
 - a) Loosen hex socket head screw (#27, page 17).
 - b) Turn feed screw nut (#26 or 29, page 17) to remove play.
 - c) Tighten hex socket head screw.

Head Assembly

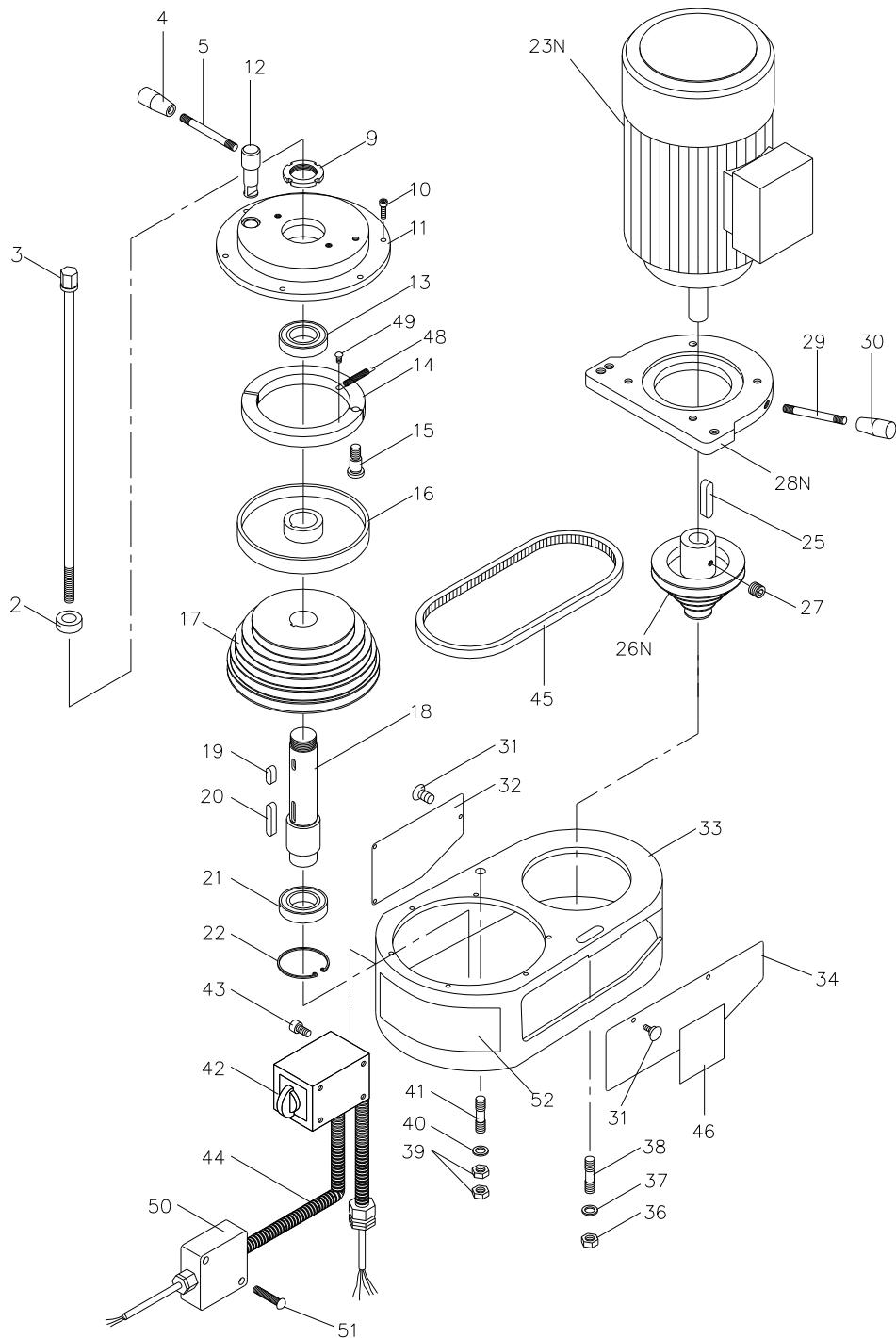


Parts List for 836
Head Assembly
Used with Serial Number 0050104 and Higher

| Index No. | Part No. | Description | Size | Qty. |
|-----------|-------------------|---|--------------|------|
| 1..... | JVM836-01 | Castle Nut | M12 | 1 |
| 2..... | JVM836-02 | Lock Nut | | 1 |
| 3..... | TS-1523041 | Hex Socket Cap Screw | M6x12 | 3 |
| 4..... | JVM836-04 | Cover | | 1 |
| 5..... | JVM836-05 | Taper Sleeve | | 1 |
| 6..... | JVM836-06 | Spring | | 1 |
| 7..... | JVM836-07 | Transmission Sleeve | | 1 |
| 8..... | JVM836-08T | Worm Gear (serial # 0040050 and higher) | | 1 |
| 9..... | JVM836-09 | Spring Washer | M4 | 3 |
| 10..... | JVM836-10 | Cross Round Head Screw | M4x16 | 3 |
| 14..... | JVM836-14T | Shaft (serial # 0040050 and higher) | | 1 |
| 15..... | JVM836-15 | Key | 5x5x20 | 1 |
| 16..... | JVM836-16 | Cross Flat Head Screw | M5x6 | 1 |
| 17..... | JVM836-17 | Whitney Key | | 1 |
| 18..... | JVM836-18T | Volume Spring (serial # 0040050 and higher) | | 1 |
| 19..... | JVM836-19 | Spring Bracket | | 1 |
| 21..... | JVM836-21 | Full Dog Point Set Screw | M8x8 | 1 |
| 22..... | TS-1514021 | Hex Socket Cap Screw | M6x15 | 4 |
| 23..... | JVM836-23 | Transmission Sleeve | | 1 |
| 24..... | TS-1523031 | Set Screw | M6x6 | 1 |
| 25..... | JVM836-25 | Round Pin | | 1 |
| 26..... | JVM836-26T | Handle Base (serial # 0040050 and higher) | | 1 |
| ..... | JVM836-26TA | New Handle Assembly (Include: #26,30,31) | | 1 |
| 27..... | JVM836-27 | Steel Ball | Ø6 | 1 |
| 28..... | JVM836-28 | Spring | | 1 |
| 29..... | TS-1524011 | Set Screw | M8x8 | 1 |
| 30..... | JVM836-30T | Rocket Rod (serial # 0040050 and higher) | | 1 |
| 31..... | JVM836-31T | Knob (serial # 0040050 and higher) | | 1 |
| 32..... | JVM836-32 | Flat Washer | M8 | 1 |
| 33..... | JVM836-33 | Spring Washer | M8 | 1 |
| 34..... | JVM836-34 | Hex Socket Cap Screw | M8x16 | 1 |
| 35..... | JVM836-35T | Worm (serial # 0040050 and higher) | | 1 |
| 36..... | JVM836-36 | Whitney Key | 4x4x12 | 1 |
| 37..... | JVM836-37 | Worm Shaft | | 1 |
| 38..... | JVM836-38 | Full Dog Point Set Screw | M5x6 | 1 |
| 39..... | TS-1522011 | Set Screw | M5x6 | 1 |
| 40..... | JVM836-40T | Bushing (serial # 0040050 and higher) | | 1 |
| 41..... | JVM836-41 | Spring Pin | Ø3x14 | 1 |
| 42..... | JVM836-42T | Worm (serial # 0040050 and higher) | | 1 |
| 43..... | JVM836-43T | Shaft (serial # 0040050 and higher) | | 1 |
| 44..... | JVM836-44 | Flat Key | 4x4x12 | 1 |
| 45..... | JVM836-45T | Bushing (serial # 0040050 and higher) | | 1 |
| 46..... | JVM836-46 | Spacer | | 1 |
| 47..... | JVM836-47 | C-Retaining Ring | | 1 |
| 48..... | JVM836-48 | Wheel | | 1 |
| 52..... | JVM836-52 | Hand Grip | | 1 |
| 53..... | TS-1523041 | Set Screw | M6x10 | 1 |

| | | | |
|-----------|-------------------|--|-------------------|
| 54..... | JVM836-54 | Locating Block | 1 |
| 55..... | JVM836-55 | Hex Socket Cap Screw..... | 3/8"-24UNF..... 1 |
| 56..... | JVM836-56 | Graduated Ring | 1 |
| 57..... | JVM836-57 | Graduated Tight Nut | 1 |
| 58..... | JVM836-58 | C-Retaining Ring | 1 |
| 59..... | JVM836-59 | Screw | 1 |
| 60..... | JVM836-60 | Graduated Scale..... | 1 |
| 62..... | TS-1523041..... | Set Screw..... | M6x12..... 2 |
| 63..... | JVM836-63 | Tight Collar | 1 |
| 64..... | JVM836-64 | Tight Collar | 1 |
| 65..... | JVM836-65 | Flexible Handle | 1 |
| 66..... | JVM836-66 | T-Head Bolt..... | 4 |
| 67..... | JVM836-67 | Sleeve Pipe..... | 4 |
| 68..... | JVM836-68 | Castle Nut | 4 |
| 69..... | JVM836-69T..... | Rack Sleeve (serial # 0040050 to 0050103) ... | 1 |
| ..... | JVM836-69N..... | Rack Sleeve (serial # 0050104 and higher) | 1 |
| 69-1..... | JVM836-69T-1..... | C-Clip | R62..... 1 |
| 70..... | JVM836-70 | Cone point Set Screw | M5x5..... 1 |
| 71..... | JVM836-71 | Taper Roller Bearing..... | 30206..... 1 |
| 71-1..... | JVM836-71-1..... | Taper Roller Bearing..... | 32008..... 1 |
| 72..... | JVM836-72N..... | Jam Nut (serial # 0050104 and higher) | 2 |
| 79..... | JVM836-79 | Protection Ring | 1 |
| 80..... | JVM836-80T..... | Protection Cover (serial # 0040050 and higher) | 1 |
| 81..... | JVM836-81 | Spindle Shaft | 1 |
| 82..... | JVM836-82 | Full Dog Point Set Screw..... | M5x6..... 1 |
| 83..... | TS-1522011..... | Set Screw..... | M5x6..... 1 |
| 84..... | JVM836-84 | Stud..... | M12x50..... 3 |
| 85..... | JVM836-85 | Spring Washer | M12..... 3 |
| 86..... | TS-1540081..... | Hex. Nut..... | M12..... 3 |
| 87..... | JVM836-87 | Limit Plate | 1 |
| 88..... | JVM836-88 | Rivet | Ø2..... 5 |
| 89..... | JVM836-89T..... | Stop Block (serial # 0040050 and higher) | 1 |
| 90..... | TS-1523041..... | Set Screw..... | M6x12..... 1 |
| 93..... | JVM836-93 | Oil Can | 1/16"PS..... 1 |
| 94..... | JVM836-94T..... | Head Body (serial # 0040050 and higher) | 1 |
| 95..... | JVM836-95 | Cross Round Cap Screw | M5x6..... 2 |
| 96..... | JVM836-96 | Plate..... | 1 |
| 97..... | JVM836-97 | Cover | 1 |
| 102..... | JVM836-102 | Set Screw..... | M5x6..... 1 |

Upper Head Assembly

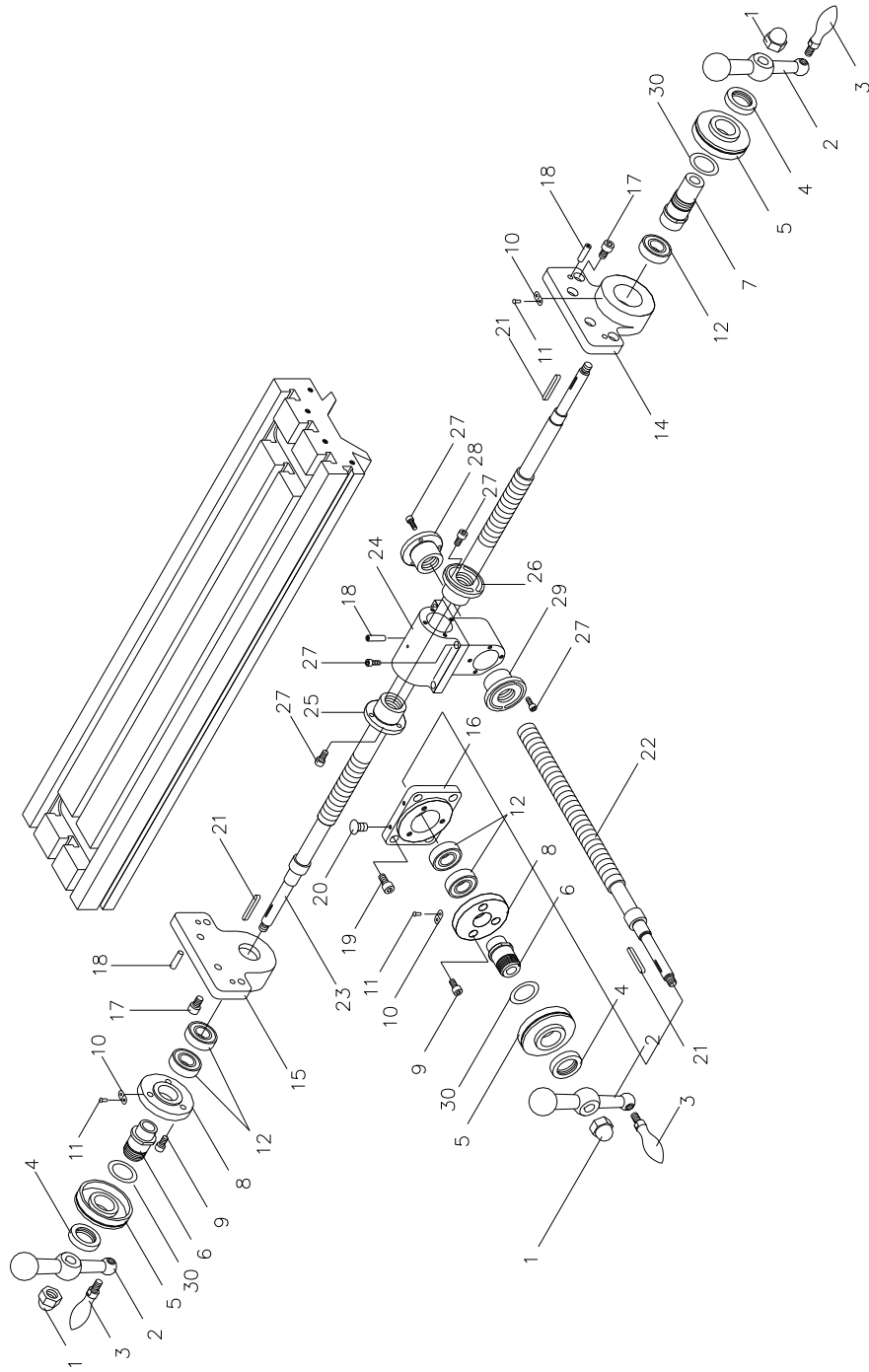


Upper Head Assembly

| Index No. | Part No. | Description | Size | Qty. |
|-----------|---------------|--|----------------|------|
| 2 | VM-G22-1 | Spacer | | 1 |
| 3 | VM-G22 | Draw Bar | | 1 |
| 4 | VM-M3-1 | Knob (serial # xxxx0049 and lower) | | 1 |
| | VM-M3-1T | Knob (serial # 0040050 and higher) | | 1 |
| 5 | VM-M3-3 | Break Handle (serial # xxxx0049 and lower) | | 1 |
| | VM-M3-3T | Break Handle (serial # 0040050 and higher) | | 1 |
| 9 | VM-M11-1 | Jam Nut | | 1 |
| 10 | TS-1514021 | Hex Socket Cap Screw | M6x16 | 6 |
| 11 | VM-M4 | Fixed Cover (serial # xxxx0049 and lower) | | 1 |
| | VM-M4T | Fixed Cover (serial # 0040050 and higher) | | 1 |
| 12 | VM-M3-5 | Brake Rod (serial # xxxx0049 and lower) | | 1 |
| | VM-M3-5T | Brake Rod (serial # 0040050 and higher) | | 1 |
| 13 | BB-6007ZZ | Ball Bearing | 6007ZZ | 1 |
| 14 | VM-M2 | Brake (serial # xxxx0049 and lower) | | 1 |
| | VM-M2T | Brake (serial # 0040050 and higher) | | 1 |
| | VM-M2TA | Brake Assembly (Include #14,15,48,49) | | 1 |
| 15 | VM-M1 | Screw (serial # xxxx0049 and lower) | | 1 |
| | VM-M1T | Screw (serial # 0040050 and higher) | | 1 |
| 16 | VM-M6 | Brake Disc | | 1 |
| 17 | VM-M8 | Pulley | | 1 |
| 18 | VM-M11 | Spindle Shaft | | 1 |
| 19 | VM-M7 | Whitney Key | 6x6x16 | 1 |
| 20 | VM-M9 | Whitney Key | 6X6X32 | 1 |
| 21 | BB-6007ZZ | Ball Bearing | 6007ZZ | 1 |
| 22 | VM-M5 | C-Retaining Ring | Ø62 | 1 |
| 23 | VM-M25C | Motor (serial # xxxx0049 and lower) | (1-1/2HP 1 PH) | 1 |
| | VM-M25C-3Ph | Motor (serial # xxxx0049 and lower) | (1-1/2HP 3 PH) | 1 |
| | VM-M25 | Motor (from serial # 0040050 to 2110610) | (1-1/2HP 1 PH) | 1 |
| | VM-M25-3Ph | Motor (from serial # 0040050 to 2110610) | (1-1/2HP 3 PH) | 1 |
| | VM-M25N | Motor (serial # 2120611 and higher) | (1-1/2HP 1 PH) | 1 |
| | VM-M25N-3Ph | Motor (serial # 2120611 and higher) | (1-1/2HP 3 PH) | 1 |
| | VM-M25CS | Centrifugal Switch (Not Shown) | | 1 |
| | VM-M25RC | Running Capacitor (Not Shown) | 20uf/350VAC | 1 |
| | VM-M25SC | Starting Capacitor (Not Shown) | | 1 |
| | 300MFD/250VAC | | | 1 |
| 24 | VM-M21 | Hex. Head Screw | M10x25 | 4 |
| 25 | VM-M25-1 | Flat Key | 8x7x36 | 1 |
| 26 | VM-M19 | Pulley (serial # 2110610 and lower) | | 1 |
| | VM-M19N | Pulley (serial # 2120611 and higher) | | 1 |
| 27 | TS-1524011 | Set Screw | M8x8 | 1 |
| 28 | VM-M20 | Motor Cover (serial # xxxx0049 and lower) | | 1 |
| | VM-M20T | Motor Cover (from S/N# 0040050 to 2110610) | | 1 |
| | VM-M20TN | Motor Cover (serial # 2120611 and higher) | | 1 |
| 29 | VM-M3 | Rod (serial # xxxx0049 and lower) | | 1 |
| | VM-M3T | Rod (serial # 0040050 and higher) | | 1 |
| 30 | VM-M3-1 | Knob (serial # xxxx0049 and lower) | | 1 |
| | VM-M3-1T | Knob (serial # 0040050 and higher) | | 1 |
| 31 | JVM836-31B | Cross Flat Head Screw | M6x6 | 3 |
| 32 | VM-M12-2 | Cover | | 1 |
| 33 | VM-M12 | Pulley Housing | | 1 |

| | | | |
|---------|---------------------|--|---------------|
| 34..... | VM-M12-1..... | Cover | 1 |
| 35..... | VM-DM85 | Plum Knob (serial # 0040049 & lower)..... | 2 |
| | JVM836-31B..... | Cross Flat Screw (serial # 0040050 & higher). M6x6 | 2 |
| 36..... | TS-1540081..... | Hex. Nut..... | M12..... 1 |
| 37..... | TS-1550081..... | Flat Washer | M12..... 1 |
| 38..... | VM-M23-1..... | Stud..... | M12x50..... 1 |
| 39..... | TS-1540081..... | Hex. Nut..... | M12..... 2 |
| 40..... | TS-1550081..... | Flat Washer | M12..... 1 |
| 41..... | VM-M23-1..... | Stud..... | M12x50..... 1 |
| 42..... | JVM836-42B..... | Switch Assembly (1Ph)..... | 1 |
| | JVM836-42-3Ph | Switch Assembly (3Ph)..... | 1 |
| 43..... | JVM836-43B..... | Hex Socket Cap Screw..... | M6x12..... 4 |
| 44..... | JVM836-44B..... | Switch Cord (4C, 1Ph)..... | 1 |
| | JVM836-44-3Ph | Switch Cord (6C, 3Ph)..... | 1 |
| 45..... | VB-A29 | Belt..... | A29 |
| 46..... | VM-M26-1PH..... | Spindle Speed Chart..... | 1 |
| | VM-M26-3PH..... | Spindle Speed Chart..... | 1 |
| 48..... | VM-M2-1..... | Spring..... | 2 |
| 49..... | VM-M2-2..... | Cross Round Cap Screw | 2 |
| 50..... | JVM836-U50..... | Plastic Electrical Box | 1 |
| 51..... | JVM836-U51..... | Cross Round Cap Screw | M5x40L..... 2 |
| 52..... | JVM836-N01..... | JET label | 1 |

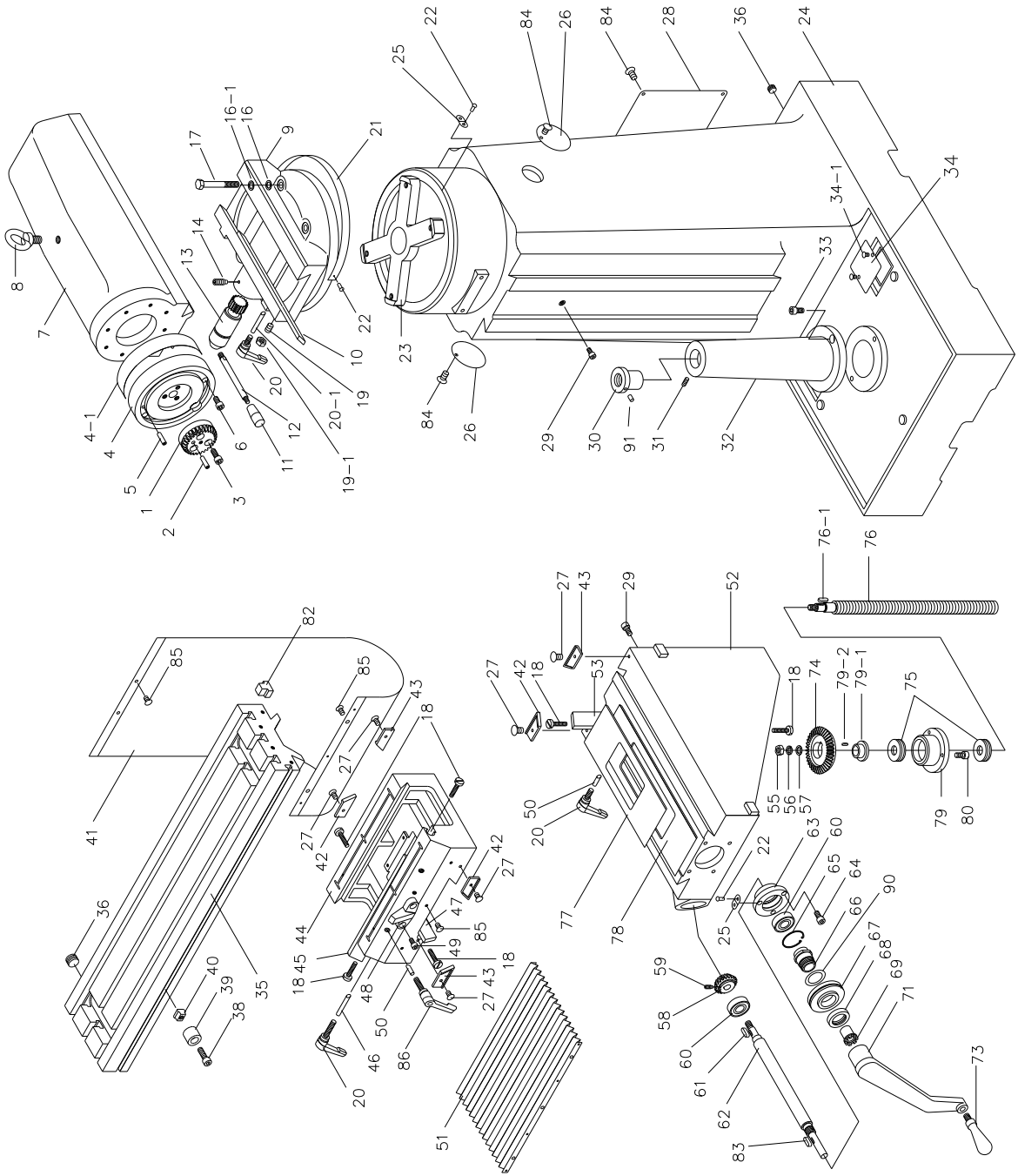
Leadscrew Assembly



Leadscrew Assembly

| Index No. | Part No. | Description | Size | Qty. |
|-----------|------------|--|--------|------|
| 1 | VM-I1 | Castle Nut | M12 | 3 |
| 2 | VM-I2 | Handle | | 3 |
| 3 | VM-I2-1 | Ball Handle | | 3 |
| 4 | VM-I3 | Knurled Nut (serial # xxxx0049 and lower) | | 3 |
| | VM-I3T | Knurled Nut (serial # 0040050 and higher) | | 3 |
| 5 | VM-I5 | Dial (serial # xxxx0049 and lower) | | 3 |
| | VM-I5T | Dial (serial # 0040050 and higher) | | 3 |
| 6 | VM-I24 | Dial Holder (serial # xxxx0049 and lower) | | 2 |
| | VM-I24T | Dial Holder (serial # 0040050 and higher) | | 2 |
| | VM-I24TA | Dial Holder Assembly (Include #4,5,6,30) | | 1 |
| 7 | VM-I6 | Dial Holder (serial # xxxx0049 and lower) | | 1 |
| | VM-I6T | Dial Holder (serial # 0040050 and higher) | | 1 |
| | VM-I6TA | Dial Holder Assembly (Include #4,5,7,30) | | 1 |
| 8 | VM-I8 | Bearing Retaining Cover | | 2 |
| 9 | TS-1515011 | Hex Socket Cap Screw | M8x16 | 6 |
| 10 | VM-M26 | Limit Plate | | 3 |
| 11 | VM-M26-1 | River | | 6 |
| 12 | BB-6204 | Ball Bearing | 6204 | 5 |
| 14 | VM-I14 | Bearing Bracket | | 1 |
| 15 | VM-I18 | Bearing Bracket | | 1 |
| 16 | VM-J11 | Bearing Block | | 1 |
| 17 | VM-I13 | Hex. Socket Screw | M10x16 | 8 |
| 18 | VM-I12 | Taper Pin | Ø8x130 | 6 |
| 19 | TS-1515021 | Hex Socket Cap Screw | M8x20 | 4 |
| 20 | JVM836-20B | Flat Screw | M6x6 | 2 |
| 21 | VM-I4 | Whitney Key | 3x3x28 | 3 |
| 22 | VM-J16 | Lead Screw (serial # 2010471 and lower) | | 1 |
| 22 | VM-J16T | Lead Screw (serial # 2020472 and higher) | | 1 |
| 23 | VM-I15 | Lead Screw (serial # 2010471 and lower) | | 1 |
| 23 | VM-I15T | Lead Screw (serial # 2020472 and higher) | | 1 |
| 24 | VM-J28 | Feed Nut Bracket | | 1 |
| 25 | VM-J26-1 | Feed Screw Nut (serial # 2010471 and lower) | | 1 |
| 25 | VM-J26-1T | Feed Screw Nut (serial # 2020472 and higher) | | 1 |
| 26 | VM-J26 | Feed Screw Nut (serial # 2010471 and lower) | | 1 |
| 26 | VM-J26T | Feed Screw Nut (serial # 2020472 and higher) | | 1 |
| 27 | TS-1514021 | Hex. Socket Screw | M6x16 | 14 |
| 28 | VM-J25-1 | Feed Screw Nut (serial # 2010471 and lower) | | 1 |
| 28 | VM-J25-1T | Feed Screw Nut (serial # 2020472 and higher) | | 1 |
| 29 | VM-J25 | Feed Screw Nut (serial # 2010471 and lower) | | 1 |
| 29 | VM-J25T | Feed Screw Nut (serial # 2020472 and higher) | | 1 |
| 30 | JVM836-T30 | Spacer | | 3 |

Base Assembly



Base Assembly

| Index No. | Part No. | Description | Size | Qty. |
|-----------|-------------|--|---------|------|
| 1 | VM-L11 | Worm Gear (serial # xxxx0049 and lower) | | 1 |
| | VM-L11T | Worm Gear (serial # 0040050 and higher) | | 1 |
| 2 | VM-L13 | Taper Pin | Ø8x150 | 1 |
| 3 | TS-1505031 | Hex Socket Cap Screw | M10x25 | 3 |
| 4 | VM-L10 | Graduation Dial | | 1 |
| 4-1 | VM-L10-1 | Graduation Dial Plate | | 1 |
| 5 | VM-L9 | Taper Pin | Ø8x130 | 2 |
| 6 | TS-1515011 | Hex Socket Cap Screw | M8x16 | 8 |
| 7 | VM-L15 | Ram | | 1 |
| 8 | JVM836-08B | Eye Bolt | M16 | 1 |
| 9 | VM-L6 | Turret | | 1 |
| 10 | VM-L5 | Turret Gib | | 1 |
| 11 | VM-L1-1 | Knob (serial # xxxx0049 and lower) | | 1 |
| | VM-L1-1T | Knob (serial # 0040050 and higher) | | 1 |
| 12 | VM-L1 | Handle (serial # xxxx0049 and lower) | | 1 |
| | VM-L1T | Handle (serial # 0040050 and higher) | | 1 |
| 13 | VM-L3 | Pinion Shaft (serial # xxxx0049 and lower) | | 1 |
| | VM-L3T | Pinion Shaft (serial # 0040050 and higher) | | 1 |
| | VM-L3TA | Pinion Shaft Assembly (Include #11,12,13) | | 1 |
| 14 | VM-L2 | Full Dog Point Set Screw | M6x12 | 1 |
| 16 | TS-1550081 | Flat Washer | M12 | 4 |
| 17 | VM-K12 | Stud (serial # 0040063 & lower) | M12x105 | 4 |
| | VM-K12N | Stud (serial # 0040064 & higher) | M12x115 | 4 |
| 18 | JVM836-18B | Adjustable Screw | | 6 |
| 19 | TS-1523021 | Set Screw | M6x10 | 2 |
| 19-1 | TS-1540041 | Hex Nut | M6 | 2 |
| 20 | VM-L4 | Lock Handle | M10x40 | 5 |
| 20-1 | VM-L4-1 | Shoe | | 2 |
| 21 | VM-L7 | Graduated Scale | | 1 |
| 22 | VM-L7-1 | Rivet | Ø2 | 7 |
| 23 | VM-K11 | Spider Arm | | 1 |
| 24 | VM-K9 | Base | | 1 |
| 25 | VM-K17 | Limit plate | | 2 |
| 26 | VM-K5 | Plate | | 2 |
| 27 | JVM836-27B | Cross Flat Screw | M6x6 | 22 |
| | JVM836-27BT | Cross Round Cap Screw | M5x12 | 6 |
| 28 | VM-K13 | Plate | | 1 |
| 29 | JVM836-29 | Hex. Socket Screw | M8x12 | 2 |
| 30 | VM-H29 | Elevating Nut | | 1 |
| 31 | TS-1523051 | Set Screw | M6x15 | 1 |
| 32 | VM-H30 | Elevation Screw Stand | | 1 |
| 33 | VM-H30-1 | Hex Socket Cap Screw | M10x30 | 2 |
| 34 | VM-K2 | Strainer Net | | 2 |
| 34-1 | VM-H34-1 | Screw | M5x12 | 4 |
| 35 | VM-I37 | Table | | 1 |
| 36 | VM-I40 | Oil Plug | 3/8"PT | 2 |
| 38 | VM-I33-2 | Hex. Socket Screw | M8x20 | 2 |
| 39 | VM-I33 | Stop Ring | | 2 |
| 40 | VM-I33-1 | T-Nut | | 2 |
| 41 | VM-C-100 | Dust Plastic | | 1 |
| 42 | VM-H32 | Wiper | | 3 |
| 43 | VM-H32-1 | Wiper | | 3 |
| 44 | VM-J36 | Saddle | | 1 |

| | | | | |
|-----------|-------------------|--|-------------|---|
| 45..... | VM-I32..... | Table Gib | 1 | |
| 46..... | VM-J39-1..... | Shoe..... | 2 | |
| 47..... | VM-J20..... | Saddle Gib | 1 | |
| 48..... | VM-J30..... | Table Stop Bracket | 1 | |
| 49..... | TS-1515021..... | Hex Socket Cap Screw..... | M8x20..... | 2 |
| 50..... | VM-J29-1..... | Shoe..... | 4 | |
| 51..... | VM-C-101..... | Dust Plastic..... | 1 | |
| 52..... | VM-H35..... | Knee..... | 1 | |
| 53..... | VM-H34..... | Knee Gib..... | 1 | |
| 55..... | TS-1540081..... | Hex. Nut..... | M12..... | 1 |
| 56..... | VM-H19..... | Spring Washer | M12..... | 1 |
| 57..... | TS-1550081..... | Flat Washer | M12..... | 1 |
| 58..... | VM-H17..... | Straight Bevel Gear (ser # xxxx0049 & lower) 20T..... | 1 | |
| ..... | VM-H17T..... | Helical Bevel Gear (ser # 0040050 & higher).. 18T..... | 1 | |
| 59..... | TS-1523031..... | Set Screw..... | M6x6..... | 1 |
| 60..... | BB-6204..... | Ball Bearing | 6204..... | 2 |
| 61..... | VM-H6..... | Whitney Key..... | 5x5x16..... | 3 |
| 62..... | VM-H12..... | Shaft..... | 1 | |
| ..... | VM-H12T..... | Shaft..... | 1 | |
| 63..... | VM-H11..... | Bearing Block | 1 | |
| 64..... | TS-1514021..... | Hex Socket Cap Screw..... | M6x16..... | 3 |
| 65..... | VM-H7..... | C-Retaining Ring | Ø47..... | 1 |
| 66..... | VM-H5..... | Dial Holder | 1 | |
| ..... | VM-H5T..... | Dial Holder | 1 | |
| ..... | VM-H5TA..... | Dial Holder Assembly (Include #66,67,68,69,71,90)..... | 1 | |
| 67..... | VM-H3..... | Dial..... | 1 | |
| ..... | VM-H3T..... | Dial..... | 1 | |
| 68..... | VM-H2..... | Knurled Nut..... | 1 | |
| ..... | VM-H2T..... | Knurled Nut..... | 1 | |
| 69..... | VM-H4..... | Clutch Insert..... | 1 | |
| ..... | VM-H4T..... | Clutch Insert..... | 1 | |
| 71..... | VM-H1..... | Hand Lever | 1 | |
| ..... | VM-H1T..... | Hand Lever | 1 | |
| 73..... | VM-H1-3..... | Hand Grip..... | 1 | |
| 74..... | VM-H24..... | Straight Bevel Gear (serial # xxxx0049 and lower)..... | 1 | |
| ..... | VM-H24T..... | Helical Bevel Gear (serial # 0040050 and higher) | 1 | |
| 75..... | BB-6204..... | Ball Bearing (serial # 0070226 & lower)..... | 6204..... | 2 |
| | BB-51104..... | Thrust Bearing (serial # 0080227 & higher) | 51104..... | 2 |
| 76..... | VM-H27..... | Elevating Screw | 1 | |
| 76-1..... | VM-H27-1..... | Bushing (serial # 0080227 & higher)..... | 1 | |
| 77..... | VM-J37-1..... | Upper Chip Guard..... | 1 | |
| 78..... | VM-J37..... | Lower Chip Guard..... | 1 | |
| 79..... | VM-H25..... | Bearing Housing (serial # 0070226 & lower)... .. | 1 | |
| ..... | VM-H25T..... | Bearing Housing (serial # 0080227 & higher) | 1 | |
| 79-1..... | VM-H25-1..... | Adapter (serial # 0040050 and higher)..... | 1 | |
| 79-2..... | JVM836-B79-2..... | Key (serial # 0040050 and higher) | 5x5x10..... | 1 |
| 80..... | TS-1514031..... | Hex Socket Cap Screw..... | M6x20..... | 3 |
| 81..... | JVM836-B81..... | C-Clip (serial # 0070226 & lower)..... | S47..... | 1 |
| 82..... | VM-I39..... | Rubber T-Nut | 6 | |
| 83..... | JVM836-B83..... | Key..... | 3x3x28..... | 1 |
| 84..... | JVM836-B84..... | Cross Round Cap Screw | M6x10..... | 6 |
| 85..... | JVM836-B85..... | Cross Round Cap Screw | M6x12..... | 7 |
| 86..... | JVM836-B86..... | Lock Handle | M10x20..... | 2 |
| 89..... | JVM836-B89..... | Spacer (serial # 0070226 & lower) | 1 | |
| 90..... | JVM836-B90..... | Spacer..... | 1 | |
| 91..... | JVM836-B91..... | Oil Block..... | 1/4"..... | 1 |

One Shot Lubrication System

| Index No. | Part No. | Description | Size | Qty. |
|-----------|-------------------|---------------------------------|-------------|------|
| 1..... | JVM836-HP | Hand Oiling Pump..... | | 1 |
| 2..... | JVM836-ALMP | Aluminum Pipe..... | | 1 |
| 3..... | JVM836-DB | Oil Regulating Distributor..... | | 1 |
| 4..... | JVM836-TJ | T-Joint | | 1 |
| 5..... | JVM836-FST | Flexible Steel Tube | | 1 |
| 6..... | JVM836-CJ..... | Check Joint | | 2 |
| 7..... | JVM836-EJ..... | Elbow Joint | | 2 |
| 10..... | TS-1514021..... | Hex Socket Cap Screw..... | M6x16 | 4 |
| 11..... | TS-1503061..... | Hex Socket Cap Screw..... | M6x25 | 2 |
| 12..... | TS-1503061..... | Hex Socket Cap Screw..... | M6x25 | 1 |

