626
Mill
Operation Manual

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Contents

Health & Safety

As with all machinery there are certain hazards involved with the operation and use of the lathe. Using the machine with respect and caution will considerably lessen the possibility of person injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may result.

This machine was designed for certain applications only. We strongly recommend that the machine is not modified, and / or used for any application other than which it was designed. **If you have any questions relative to its application do not use the machine, until you have first been in contact with Chester UK.**

The mill may not arrive with a power socket or plug. In the event of this happening, please inform Chester UK on Tel: (01244) 531 631.

Safety rules for all machines

1. **Wear correct apparel**
   No loose clothing, gloves, rings, bracelets or other jewellery to get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.
2. **Wear eye protection**
   Refer to ANSLZ87.1 standard for appropriate recommendations. Also use face and / or a dust mask if the cutting operation is dusty.
3. **Don't overreach**
   Keep a proper footing and balance at all times.
4. **Never stand on any tools**
   Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted.
5. **Never leave a running machine unattended**
   Turn power off**.** Leave machine until it comes to a complete stop.
6. **Drugs, alcohol and medication**
   Do not operate the tool while under the influence of drugs, alcohol or any medication.
7. **Make sure the machine is disconnected from the power supply**
   While motor is being mounted, connected or reconnected.
8. **Always keep hands and fingers away from any moving parts.**
9. **Stop the machine before removing any chips.**
10. **Shut the machine off and clean work area before leaving the machine.**

Use of the machine

1. **Remove adjusting keys and wrenches**
   Form a habit of checking to see that keys and adjusting wrenches are removed from the machine before switching it on.
2. **Use the right tool**
   Don't force the tool or attachment to do a job for which it was not designed.
3. **Secure work**
   Use clamps or a vice to hold work when practical. It's safer than using your hands, and frees both to operate the machine.
4. **Keep tools in top condition**
   Keep tools sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.
5. **Use recommended accessories**
   Consult Chester UK for recommended accessories. The use of improper accessories may cause hazards.
6. **Avoid accidental starting**
   Make sure the switch is in the off position before plugging in power cord.

7. **Stop the machine before using any materials in the vice.**
8. **Always have stock fully clamped in the vice before starting any work.**
9. **Ground all tools**
   If the tool is equipped with a three-prong plug, it should be plugged into a three-hole electrical receptacle. If an adapter is used to accommodate a two-prong receptacle, the adapter plug must be attached to a known ground. Never remove the third prong.

Adjustment

Make all adjustments with the power off. When assembling follow the manuals instructions, this will ensure correct instruction and a safe structure.

Working environment

1. **Keep the work area clean**
   Cluttered areas and benches invite accidents.
2. **Don't use in an unsafe environment**
   Don't use power tools in damp or wet locations, or expose to rain. Keep the work area well lit.
3. **Keep children at a safe distance**
   All children etc should be kept at a safe distance from the work area.
4. **Don't install or use the machine in an explosive or unsafe environment**

Maintenance

1. **Disconnect the machine from power source when making repairs**
2. **Check damaged parts**
   Before further use of the machine, tools, guards or other part that are damaged should be carefully checked to ensure that they will operate properly and perform their intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect their operation. A guard or other part that is damaged should be properly repaired or replaced.
3. **Disconnect tools**
   Before servicing and when changing accessories such as blades bits, cutters, etc.
4. **Preventing corrosion**
   To prevent the corrosion of machined surfaces when a soluble is used as coolant, pay particular attention to wiping dry the surfaces where fluid accumulates and does not evaporate quickly, such as between the machine bed and vice.

Safety device

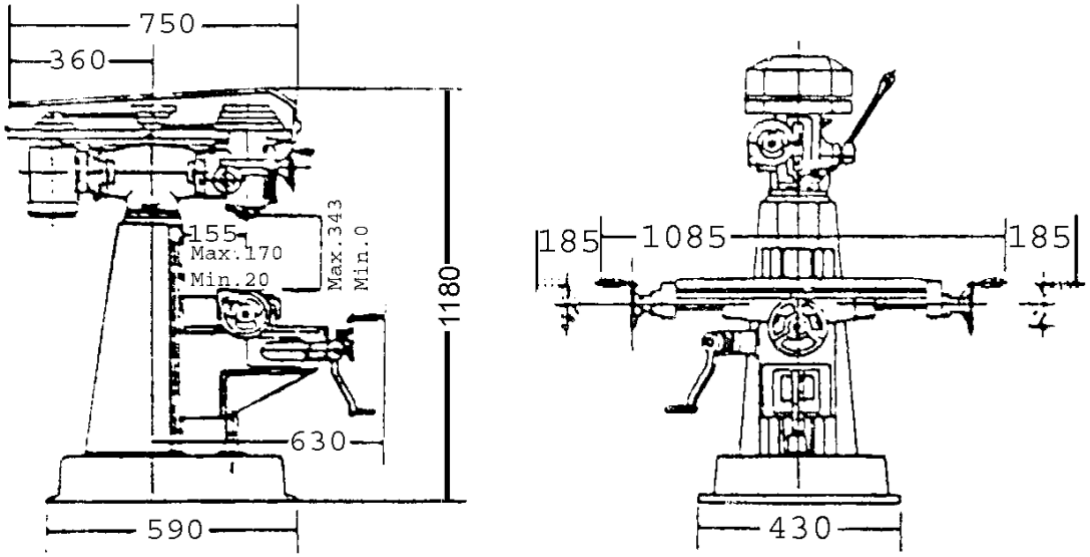
1. Interlock switch on pulley cover. As soon as the pulley cover is open, the machine will come to a stop with the function of this switch. Do not remove this switch from the machine for any reason, and check it's function frequently.
2. Interlock switch on cutting area. As soon as the pulley cover is open, the machine will come to a stop with the function of this switch. Do not remove this switch from the machine for any reason, and check it's function frequently.

Machine Specifications

Drilling Capacity	20mm
End Milling Capacity	20mm
Face Milling Capacity	63mm
Table Size	660 x 152mm
Longitudinal Travel	360mm
Cross Travel	150mm
Spindle Taper	MT3
Spindle Stroke	70mm
Spindle Speeds	190-2100rpm
Headstock Tilt	±45º
Motor	1.5kW (2hp)
Net Weight	320kg
Dimensions (WxDxH)	920 x 760 x 1300mm

Features and main applications

The 626-turret mill is a compact vertical milling machine, easy to set up, with controls designed for easier operation (dual hand wheels).
A practical machine that can be easily used for technical schools, small parts production, tool rooms, R&D work, maintenance shops and even hobby use.
Ideally suited for many operations: conventional milling, compound angle milling, engraving, drilling as well as jig boring.
The 'ways' are hand scraped for a perfect bearing alignment, as well as the table being ground for a perfect square ness.
All high castings are made of a high strength material. They are aged for several months before normalizing and tempering, to minimize deformation.



Installation

To set the machine on a solid concrete foundation, it is advisable to apply a little grout to touch up any unevenness in the concrete in order to get a solid foundation at all points.

When setting the machine on a floor that has any surface irregularities, shims should be used to correct.

Pre-lubrication

Thoroughly clean the machine with gasoline or kerosene, and then lubricate all the slide ways with S.A.E. #10 & gears with S.A.E. #30 lubricant. Be sure the machine is lubricated properly before starting.

Levelling

Set the machine by levelling the worktable lengthwise & crosswise with a precision levelling instrument (refer to the test readings in the attached test records).

Inspection

Inspect the machine with the attached original testing records for reference.

Switch box

The switch box is located on left side of the column, for the On – Off only.

Adjustment of the table feed travel

The table longitudinal and cross feed travel can be set for any travel distance by simply adjusting the stop set screws that are located in front of the table and at the right side of the knee.

Adjustment of the table gib

The table is provided with a full-length tapered gib in the saddle with an adjustable screw at each end. To take up gib, tighten the two screws until a slight drag is felt (when moving the table by hand).

If the table is not tight enough, loosen the adjusting screw on the small end and then tighten on the big end.

If after completing this process, you feel that the table gib is too tight, simply reverse the above procedure.

Adjustment of saddle & knee gibs

To tighten the gibs, use the same method as previously described in the 'Adjustment of the table gib'.

Clamping the table, saddle & knee

When milling with the longitudinal table feed, it is advisable to clamp the knee with the column and saddle, this will add rigidity to allow for heavier cuts with a minimum of vibration.

The saddle-locking lever is located on the left hand side of the saddle (to the operator), applying a clamping pressure will hold the saddle rigid.

The table clamping levers are located in front of the saddle and should always be clamped when a longitudinal movement is not required.

The knee-clamping lever is at the left side of the knee, leave this clamped at all times unless the knee is in operation.

Removing the table

Remove the table as follows: hand-wheel, then dial holder, and turn the lead screw all the way so that it can be removed.

Then the table can be disassembled quite easily.

Mounting the motor & shifting the belts for speed

The motor is mounted on a plate hinged to the pulley housing. Release the belt setting unit by turning the handle at the side of the motor and then shift the belts to the required speed.

Retighten and use. A speed chart is supplied for your reference.

Quill lock & vertical feed

The handle at the right lower corner of the head is called the quill lock. When the vertical feed is not in use set the handle to lock the quill and make the head more stable.

The micrometer depth is graduated in inches. By utilizing these simple graduations, it is possible to work accurately to different depths. A lock nut under the micrometer nut, assures that the micrometer nut is secured.

Quill clutch of the vertical head

The vertical feed is controlled via a hand wheel at the front of the head, as well as a handle at the right side of the head.

When the hand wheel is in use, tighten the clutch lock nut, or loosen for handle operation. The hand-wheel for fine feeds, handle for fast feeds.

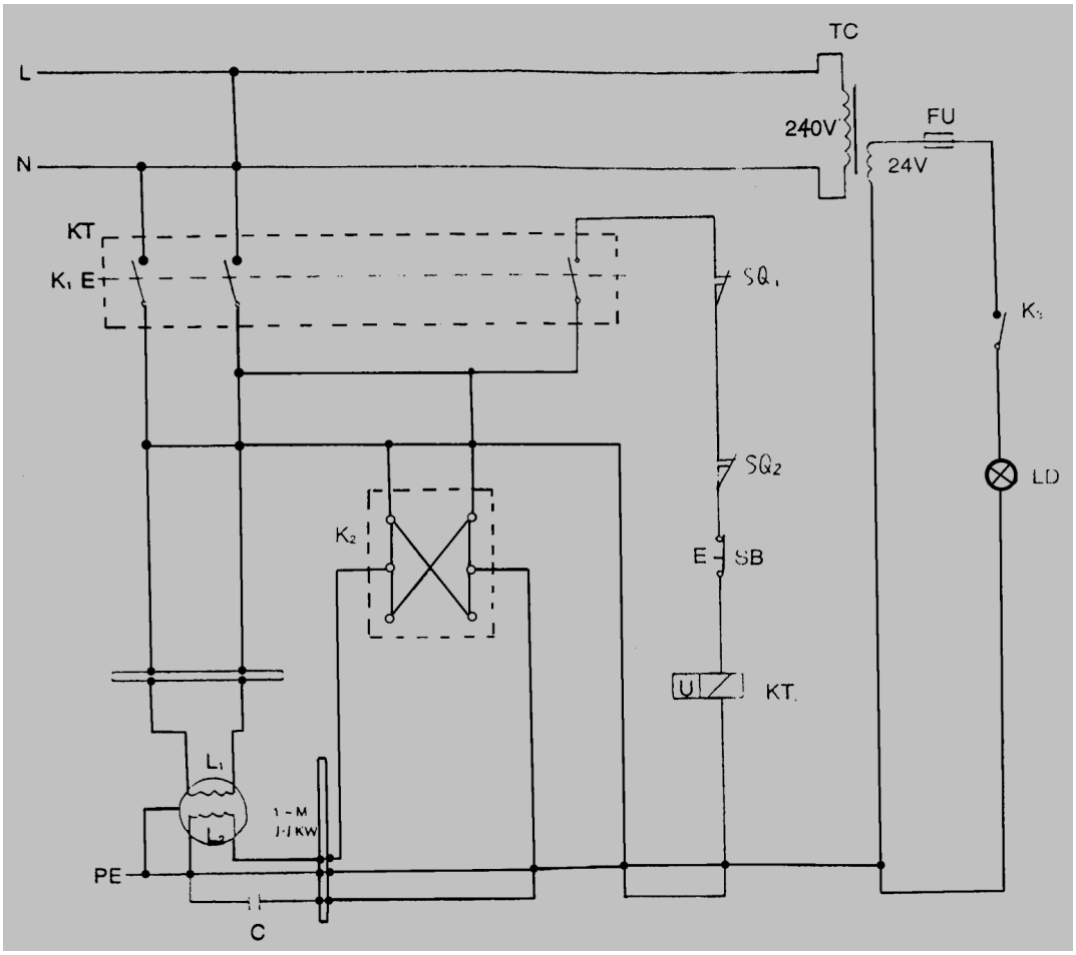
Vertical head and tee adapter

The vertical milling head can be tilted 90° on either side; this can be accomplished by loosening the four locking bolts on the tee adapter.

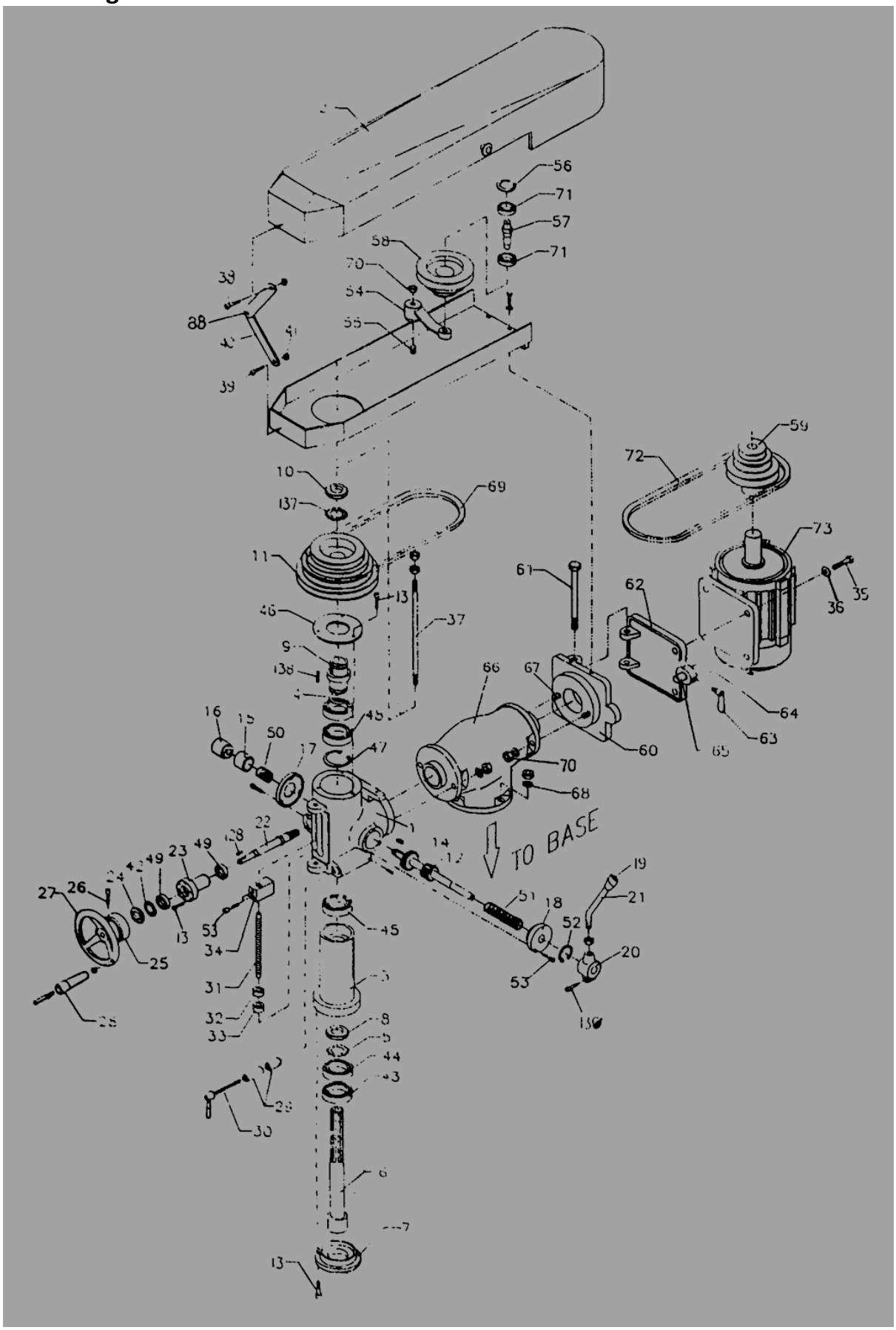
Loosen the two set bolts on the adapter; you can then swivel the vertical milling head 120°, tighten the bolts once the correct position is achieved.

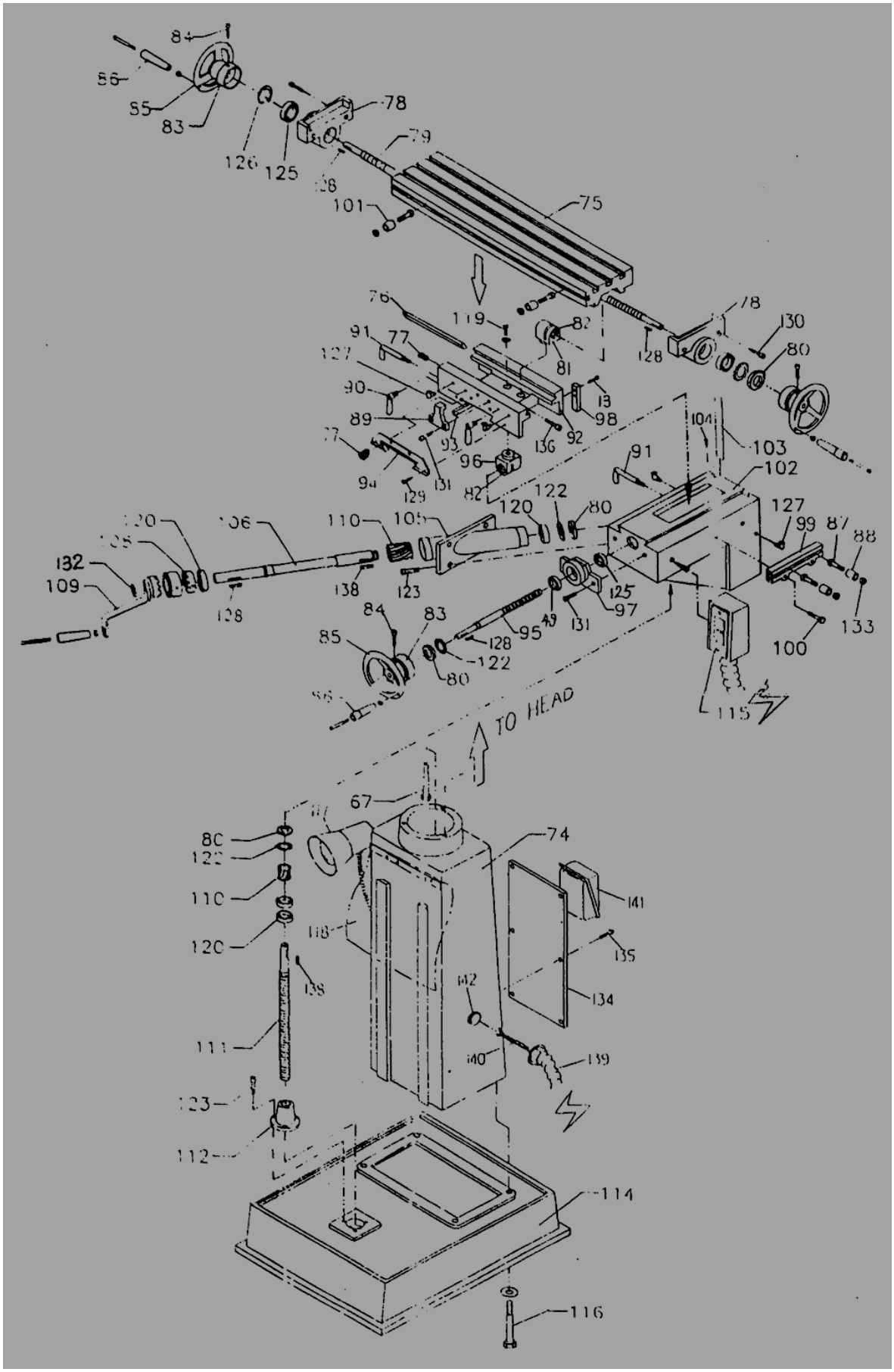
The motor and milling head must tilt together, simply because the motor & head are suspend on the same pulley housing.

Wiring Diagram



Parts Diagrams




TO HEAD

Parts List

S/N P/N DESCRIPTION	S/N P/N DESCRIPTION
1. 250-S-IYT-1001 Vertical milling head	39. 250-S-IYT-M5x10 Screw
2. 250-S-IYT-1095 Belt housing cover	40. 250-S-IYT-T1089 Pulley cover supporting arm
3. 250-S-IYT-1005 Quill	41. 250-S-IYT-M5 Nut
4. 250-S-IYT-S-45-1010 Snap ring	42. 250-S-IYT-1016 Washer for bearing
5. 250-S-IYT-1007 Spring washer	43. 250-S-IYT-7207-1003 Bearing
6. 250-S-IYT-1002 Vertical Spindle	44. 250-S-IYT-6007zz-1003 Bearing
7. 250-S-IYT Cover	45. 250-S-IYT-6206z-1003 Bearing
8. 250-S-IYT-1008 Bearing adjusting nut	46. 250-S-IYT-1082 Bearing cover
9. 250-S-IYT-1009 Spindle sleeve	47. 250-S-IYT-R-75-1012 Snap ring
10. 250-S-IYT-1016 Pulley locking nut	48. 250-S-IYT-6009z-1011 Bearing
11. 250-S-IYT-1018 Spindle pulley	49. 250-S-IYT-1052 Thrust bearing
12. 250-S-IYT-1019 Quill pinion shaft	50. 250-S-IYT-1037 Spring
13. 250-S-IYT-1047-M5x10 Screw	51. 250-S-IYT-1020 Spring
14. 250-S-IYT-1036 Clutch worm gear	52. 250-S-IYT-E-19 Snap ring
15. 250-S-IYT-1039 Clutch	53. 250-S-IYT-M6x15-1038 Bolt
16. 250-S-IYT-1040 Clutch adjusting nut	54. 250-S-IYT-1076 Swivel arm
17. 250-S-IYT-1046 Clutch cover	55. 250-S-IYT-1075 Swivel stud
18. 250-S-IYT-1021 Pinion shaft seal	56. 250-S-IYT-R-35 Snap ring
19. 250-S-IYT-1032 Ball handles	57. 250-S-IYT-1079 Pulley pivot stud
20. 250-S-IYT-1028 Hand bar holder seat	58. 250-S-IYT-1080-58 Idle pulley
21. 250-S-IYT-1030 Handle bar	59. 250-S-IYT-1080-59 Motor pulley
22. 250-S-IYT-1051 Worm shaft	60. 250-S-IYT-1067 Motor mounting
23. 250-S-IYT-1053 Worm shaft sleeve	61. 250-S-IYT-1068 Motor suspending pivot
24. 250-S-IYT-1055 Nut for bearing	62. 250-S-IYT-1070 Motor mounting
25. 250-S-IYT-1056 Dial	63. 250-S-IYT-1072 Motor set unit handle
26. 250-S-IYT-1060 Dial positioning screw	64. 250-S-IYT-1071 Belt set unit
27. 250-S-IYT-1057 Hand wheel	65. 250-S-IYT-1071 Belt set unit
28. 250-S-IYT-1061 Handle	66. 250-S-IYT-1064 Vertical head adapter
29. 250-S-IYT-1048 Quill locking block	67. 250-S-IYT-1067-10Mx35 Screw
30. 250-S-IYT-1049 Quill locking bolt	68. 250-S-IYT-10M Bolt washer
31. 250-S-IYT-1042 Quill stop micro screw	69. 250-S-IYT-A35-1102 Vee belt
32. 250-S-IYT-1044 Micrometer nut	70. 250-S-IYT-10M Nut
33. 250-S-IYT-1045 Quill micro stop nut	71. 250-S-IYT-6003z-1081 Bearing
34. 250-S-IYT-1041 Quill stopper	72. 250-S-IYT-A32-1101 Vee belt
35. 250-S-IYT-8Mx20 Screw	73. 250-S-IYT-1HP4-POLE-1073 Motor
36. 250-S-IYT Bolt washer	74. 250-S-IYT-2006 Column
37. 250-S-IYT-1014 Draw bar	75. 250-S-IYT-2073 Table
38. 250-S-IYT-c5x15 Rivet	76. 250-S-IYT-2062 Table gib

S/N P/N DESCRIPTION	S/N P/N DESCRIPTION
77. 250-S-IYT-2059 Adjusting screw	115. 250-S-IYT-2089 Switch
78. 250-S-IYT-2082 Longitudinal bearing bracket	116. 250-S-IYT-“x2”-2002 Bolt
	117. 250-S-IYT-2097 Light
79. 250-S-IYT-2079 Longitudinal lead screw	118. 250-S-IYT-2069 Rubber sheet
80. 250-S-IYT-2084 Nut for bearing	119. 250-S-IYT-6Mx25 Bolt
81. 250-S-IYT-2080 Longitudinal feed nut	120. 250-S-IYT-6004z-2010 Bearing
82. 250-S-IYT-2081 ∅5Mx25 Screw	121. 250-S-IYT-6x15 Key
83. 250-S-IYT-2087 Dial	122. 250-S-IYT-2024 Washer
84. 250-S-IYT-1060 Dial positioning screw	123. 250-S-IYT-6Mx15-2008 Bolt
85. 250-S-IYT-2089 Hand wheel	124. 250-S-IYT-6Mx35 Bolt
86. 250-S-IYT-2091 Handle bar	125. 250-S-IYT-6004z-2084 Bearing
87. 250-S-IYT-2103 Long, travel adjusting screw	126. 250-S-IYT-S-18 Snap ring
	127. 250-S-IYT-2018 Oil cup
88. 250-S-IYT-2104 Adjusting screw sleeve	128. 250-S-IYT-5x5x20 Key
89. 250-S-IYT-2068 Table stopper	129. 250-S-IYT-M5x10 Bolt
90. 250-S-IYT-2060 Table locking screw	130. 250-S-IYT-6Mx45 Bolt
91. 250-S-IYT-2060 Handle bar	131. 250-S-IYT-6Mx15 Bolt
92. 250-S-IYT-2057 Saddle	132. 250-S-IYT-S-18 Snap ring
93. 250-S-IYT-2058 Saddle gib	133. 250-S-IYT-10M Bolt
94. 250-S-IYT-2069 Rubber sheet	134. 250-S-IYT Iron sheep
95. 250-S-IYT-2401 Cross lead screw	135. 250-S-IYT-M6x8 Bolt
96. 250-S-IYT-2037 Cross feed nut	136. 250-S-IYT-8Mx25 Bolt
97. 250-S-IYT-2042 Cross feed bearing bracket	137. 250-S-IYT-AW09 Washer
98. 250-S-IYT-2068 Stop block	138. 250-S-IYT-7x7x20 Key
99. 250-S-IYT-2102 Stop block fixture	139. 250-S-IYT Iron sheep soft pipe
100. 250-S-IYT-2103 Cross travel adjusting screw	
101. 250-S-IYT-2104 Adjusting screw sleeve	**CAUTION:**
102. 250-S-IYT-2015 Knee	
103. 250-S-IYT-2016 Knee gib	Find the serial number from the
104. 250-S-IYT-2017 Knee locking screw	drawing, then use it to obtain
105. 250-S-IYT-2019 Gear shaft sleeve	the part number from this list.
106. 250-S-IYT-2020 Gear shaft	
108. 250-S-IYT-2029 Elevating handle clutch	
109. 250-S-IYT-2030 Handle arm	140. 250-S-IYT Cable
110. 250-S-IYT-2012 Elevating gear	141. 250-S-IYT Terminal contactor
111. 250-S-IYT-2009 Elevating lead screw	142. 250-S-IYT Pipe lead
112. 250-S-IYT-2007 Elevating lead screw set nut	
113. 250-S-IYT-2059 Chip guard	
114. 250-S-IYT-2001 Base	