<table>
<thead>
<tr>
<th>SPECIFICATION</th>
<th>LAM-350B</th>
<th>LAM-350BH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Swing over bed</td>
<td>250\text{%m} 10°</td>
<td>305\text{%m} 12°</td>
</tr>
<tr>
<td>2. Swing over saddle</td>
<td>152.5\text{%m} 6°</td>
<td>178\text{%m} 7°</td>
</tr>
<tr>
<td>3. Distance between centers</td>
<td>609\text{%m} 24°</td>
<td>940\text{%m} 37°</td>
</tr>
<tr>
<td>4. Length of bed</td>
<td>1140\text{%m} 45°</td>
<td>1473\text{%m} 58°</td>
</tr>
<tr>
<td>5. Width of bed</td>
<td>182\text{%m} 7\frac{3}{4}°</td>
<td>182\text{%m} 7\frac{3}{4}°</td>
</tr>
<tr>
<td>6. Hole through spindle</td>
<td>35\text{%m} 1\frac{3}{8}°</td>
<td>35\text{%m} 1\frac{3}{8}°</td>
</tr>
<tr>
<td>7. Tailstock spindle travel</td>
<td>92\text{%m} 3\frac{3}{8}°</td>
<td>92\text{%m} 3\frac{3}{8}°</td>
</tr>
<tr>
<td>8. Cross slide travel</td>
<td>160\text{%m} 6\frac{5}{16}°</td>
<td>160\text{%m} 6\frac{5}{16}°</td>
</tr>
<tr>
<td>9. Tool slide travel</td>
<td>89\text{%m} 3\frac{1}{2}°</td>
<td>89\text{%m} 3\frac{1}{2}°</td>
</tr>
<tr>
<td>10. Saddle travel</td>
<td>489\text{%m} 19\frac{1}{4}°</td>
<td>819\text{%m} 32\frac{1}{4}°</td>
</tr>
<tr>
<td>11. Taper of spindle bore</td>
<td>M. T. No. 4\frac{1}{2}</td>
<td>M. T. No. 4\frac{1}{2}</td>
</tr>
<tr>
<td>12. Taper of center, Morse Taper</td>
<td>M. T. No. 2</td>
<td>M. T. No. 2</td>
</tr>
<tr>
<td>13. Range of spindle speeds</td>
<td>12 Changes,60\text{%m} 50-1000 R. P. M.</td>
<td>12 Changes,60\text{%m} 50-1000 R. P. M.</td>
</tr>
<tr>
<td>14. Lead screw diameter</td>
<td>19\text{%m} \frac{3}{4}°</td>
<td>19\text{%m} \frac{3}{4}°</td>
</tr>
<tr>
<td>15. Feed Rod diameter</td>
<td>16\text{%m} \frac{3}{8}°</td>
<td>22\text{%m} \frac{7}{8}°</td>
</tr>
<tr>
<td>16. Threads per inch of lead screw</td>
<td>8 T. P. I.</td>
<td>8 T. P. I.</td>
</tr>
<tr>
<td>17. Thread can be cut</td>
<td>\text{%m}24\text{Kinds 0.5-15 inch 50 Kinds 4-112T:P.L.}</td>
<td>\text{%m}24\text{Kinds 0.5-15 inch 50 Kinds 4-112T:P.L.}</td>
</tr>
<tr>
<td>18. Motor horse power</td>
<td>1HP</td>
<td>1HP</td>
</tr>
<tr>
<td>19. Net weight without attached stand (approx)</td>
<td>260 Kg</td>
<td>280 Kg</td>
</tr>
<tr>
<td>20. Net weight with attached simple stand (approx)</td>
<td>300 Kg</td>
<td>320 Kg</td>
</tr>
<tr>
<td>21. Net weight with attached floor stand (approx)</td>
<td>350 Kg</td>
<td>370 Kg</td>
</tr>
<tr>
<td>22. Packing size (without attached stand or with attached simple stand)</td>
<td>56''\times36''\times32''</td>
<td>70''\times36''\times32''</td>
</tr>
<tr>
<td>23. Packing size (with attached floor stand) (approx)</td>
<td>56''\times36''\times56''</td>
<td>70''\times36''\times56''</td>
</tr>
</tbody>
</table>
1. Motor pulley ........................................ 1Pc
2. Back plate 6 1/2" ................................ 1Pc
3. Back plate 5 1/2" ................................ 1Pc
4. Center sleeve (M.T. 4 1/2 #) ............. 1Pc
5. Center (M.T. 2 #) .......................... 2Pc
6. Tool-Box ........................................ 1Pc
7. Toolpost wrench ............................. 1Pc
8. Change gear (30T, 32T, 46T) .......... 3Pc
9. Allen wrench .................................. 1Set
10. Wrench opening ........................... 1Set
11. Monkey wrench ............................ 1Pc
12. Screw drivers ............................. 1Pc
13. Oil gun ...................................... 1Pc
1. Motor ...................................................... 1Pc
2. 3-Jaw chuck 5" ........................................... 1Pc
3. 4-Jaw independent chuck 6" ............................ 1Pc
4. 8"(10") Face plate .......................................... 1Pc
5. Drilling chuck $\frac{1}{2}$" ...................................... 1Pc
6. Rolling center (M.T.2 #) .................................. 1Pc
7. Follow Rest .................................................. 1Pc
8. Steady Rest ................................................. 1Pc
9. Floor stand .................................................. 1Set
10. Cooling pump system ...................................... 1Set
FIG. 1

1. PULLEY GUARD
2. BELT TENSION LEVER
3. BACK GEAR LEVER
4. END COVER
5. END GEAR TUMBLER
6. FEED/THREAD SELECT LEVER
7. TUMBLER LEVER
8. OIL PLUG
9. HEADSTOCK
10. OIL SIGHT GLASS
11. MAIN SPINDLE
12. SADDLE
13. CROSS SLIDE
14. TOOLPOST
15. TOOLPOST CLAMPING LEVER
16. COMPOUND SLIDE
17. TAILSTOCK QUILL
18. TAILSTOCK QUILL LOCK LEVER
19. TAILSTOCK CLAMPING LEVER
20. TAILSTOCK
21. TAILSTOCK HANDWHEEL
22. BED
23. THREADING DIAL
24. HALF-NUT LEVER
25. APRON
26. CROSS/LONGITUDINAL FEED LEVER
27. CROSS SLIDE HANDWHEEL
28. CARRIAGE HANDWHEEL
29. LEADSCREW
30. FEEDROD
31. CHIP PAN
32. SWITCH
GENERAL DIMENSIONS

<table>
<thead>
<tr>
<th>E</th>
<th>D</th>
<th>C</th>
<th>B</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>24''</td>
<td>53 3/8''</td>
<td>22 1/4''</td>
<td>51 3/8''</td>
<td>28 3/8''</td>
</tr>
<tr>
<td>37''</td>
<td>66 3/4''</td>
<td>23 3/4''</td>
<td>63''</td>
<td>39 3/4''</td>
</tr>
</tbody>
</table>

350 B

350 BH

---

Dimensions of the machine are illustrated with measurements such as 4 3/8', 6 1/2', and 16 3/4'.
INSTALLATION

FOUNDATION
The foundation must be solid and heavy enough to support the weight of the machine and without noticeable deflection. The floor must be fairly level. Concrete floor makes the best foundation. It provides the rigid base and minimizes vibration from adjacent machines. It is also very stable. Wooden floors must be checked for strength. Place a level on the floor and lower the machine. If the bubble shows appreciable deflection, the floor must be reinforced. For anchoring the machine to the floor, place the lathe in the location and mark off for the location of the anchor holes to be drilled. Remove the lathe, drill holes to suit the anchor bolts. Drive in the anchor and replace the lathe. Care should be taken for accurately marking the locations of the anchor bolt holes. If the machine is to be mounted on a bench, a precision level should be used first to check the bench surface is within the desirable tolerances.

MACHINE INSTALLATION
Sling the machine as shown in the sling chart Fig. 2
Pad the machine surfaces to prevent the sling damaging the surfaces.
When using sling, move the carriage for proper balance and lock in place.
Carefully lower the machine on its foundation over the leveling pads, wedges, or shims, whichever is used.

CLEANING
Prior to shipment all machined and finished surfaces are coated to prevent rusting. Before moving the carriage or tailstock, use clean solvent to remove the rust preventive coating. For cleaning the leadscrew, rack, feedrod, etc., use brush and solvent. After thorough cleaning, lubricate the ways with way lube. Move the carriage and tailstock in any one direction approximately 1 inch, clean the ways for any residue of rust preventive coating. Move the other way approximately the same distance and repeat the process. Such care in the cleaning will ensure the removal of any foreign particles and prevent the ways from scoring.

CAUTION:
DO NOT USE AIR HOSE FOR CLEANING.
LEVELING

LEVELING OF THE LATHE

The lathe should be kept perfectly level at all times.

Leveling Procedure

Clean the bedways thoroughly and make sure the bedways are dry after cleaning. Back off all leveling screws so the base is sitting on the floor. Place a 6” precision machinist spirit level over a parallel if the level used has a V-base. Now place the level with the base on the front flat way. If the base of the level is flat, it can then be directly placed on the flat way. Place the level lengthwise at the headstock end and level for a zero reading. Move the level to the tailstock end and adjust the outer end leveling screws to obtain same reading as on the headstock end.

Now place the level over a bridge across at the headstock end, take a reading and move the level to the tailstock end. The reading at this end must be exactly the same as the other end. No twist is permissible. Make adjustments to get the same reading at both ends.

It will be necessary to repeat this procedure several times, making necessary adjustments. You will find that the adjustments at one end will affect the reading of the other. After the end leveling screw adjustments are complete, turn down the center leveling screws at the headstock end until they rest under slight tension. The tension should be such that it does not change the level reading.

Recheck level at this time and make only minor adjustment, if necessary. After the machine has been put to use for a period of time, check level to observe if the original condition exists. Make adjustments if necessary. (MARK ONE END OF THE LEVEL WITH A ERASABLE MARKER SO THAT THE LEVEL POINTS IN THE SAME DIRECTION FOR EVERY READING.) Carpenter’s or combination square level are not accurate and must not be used. Schedule a periodic level check as a part of your maintenance schedule.
ELECTRICAL

The standard lathe is wired for 110 volts, 1 phase 60 cycles.
For connection to 220 volts, check the wiring diagram for the changeover shown in the motor terminal cover.
On special order, some lathes are wired for 3 phase.
For electrical connections, merely connect your supply lines to the leads provided on the lathe. Before connecting, make sure the motor specification and the machine wiring correspond with power supply.
Check for correct direction of rotation. Should this need correction, turn OFF the power and interchange the leads according to the motor wiring diagram.

ELECTRIC WIRING DIAGRAM

M: Motor
E: Electricity Source
RS: Reversible Switch
(3,15,26,4) Use 110V
(3,1,2,4) Use 220V
This wiring diagram is for 220V 3 phase.

This wiring diagram is for 220V or 240V or 230V/380V or 440V 3 phase.

This wiring diagram is for Ac reversing magnetic switch.
LUBRICATION CHART
OPERATING INSTRUCTIONS

Do not operate the lathe until you are thoroughly familiar with all the controls and their functions.

Check oil levels and lubricate all sliding and rotating parts. See lubrication chart for grade of oil to be used and the lubrication.

HEADSTOCK
The machine is equipped with 2 belts, one from the motor to the upper rear pulley, and one from the upper rear pulley to the spindle pulley. The tension of the belts has been factory adjusted. It is advisable to check the tension before starting the machine. The belts should depress about ½ inch by normal finger pressure. Tight belts will ruin the bearings. Adjust the tension if necessary. An adjusting link mechanism is provided for this purpose. See Fig. 3. If the belt is loose, loosen bolt (C) and turn (A) until the desired tension is set. Then tight hexagon bolt (C) in position.

The spindle and bearings are lubricated by the oil from two oil reservoirs located at each side of the headstock. It is important that sufficient level of oil is maintained at all times.

FIG. 3
HEADSTOCK CONTROLS
The headstock is constructed by gears and pulleys, provide 12 speeds from 50 to 1000 R.P.M. as indicated in Fig. 4. The back gear provides low spindle speeds from 50 to 250 R.P.M. and should be used for heavy cuts as well as large diameter work pieces.

OPERATION:
Caution: Speed changing can be made only when motor is completely stopped.
When changing the three stage speeds, please proceed as follows:
1. Turn off the motor.
2. Raise the headstock cover and pull the belt tension lever to the loose position.
3. Move the belt to the desired position.
4. Push the belt tension lever back to the tightened position.

When using the back gears for heavy cutting, please proceed as follows:
1. Turn off the motor.
2. Pull out the lock pin "a" from the gear "b" as indicated in Fig. 4, and make a half turn to set it in the "out" position.
3. Pull the lever (3) (Fig. 1.) to mesh the gears.

FIG. 4

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>60°</td>
<td>92</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>50°</td>
<td>76</td>
<td>66</td>
</tr>
<tr>
<td>2</td>
<td>60°</td>
<td>250</td>
<td>183</td>
</tr>
<tr>
<td></td>
<td>50°</td>
<td>208</td>
<td>152</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>60°</td>
<td>365</td>
<td>325</td>
</tr>
<tr>
<td></td>
<td>50°</td>
<td>304</td>
<td>270</td>
</tr>
<tr>
<td>2</td>
<td>60°</td>
<td>1000</td>
<td>720</td>
</tr>
<tr>
<td></td>
<td>50°</td>
<td>833</td>
<td>600</td>
</tr>
</tbody>
</table>
**QUICK CHANGE GEAR BOX (FIG. 5)**

The quick change gear mechanism determines the rate of rotation of the lead screw and the feedrod in relation to the spindle speeds for threading, turning and facing operations. This quick change gear box is controlled by moving the two tumbler levers. Lever “A” has five positions, while lever “B” eight positions as shown in Fig. 5.

When cutting inch threads, move the two tumbler levers to the desired position according to the inch thread cutting chart on the name plate. See Fig. 6.


<table>
<thead>
<tr>
<th>THREADED INCH</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4</td>
<td>4½</td>
<td>4¾</td>
<td>5</td>
<td>5½</td>
<td>6</td>
<td>6½</td>
<td>7</td>
</tr>
<tr>
<td>B</td>
<td>8</td>
<td>9 ½</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>16</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>22</td>
<td>24</td>
<td>26</td>
<td>28</td>
</tr>
<tr>
<td>D</td>
<td>32</td>
<td>36</td>
<td>38</td>
<td>40</td>
<td>44</td>
<td>48</td>
<td>52</td>
<td>56</td>
</tr>
<tr>
<td>E</td>
<td>64</td>
<td>72</td>
<td>76</td>
<td>80</td>
<td>88</td>
<td>96</td>
<td>104</td>
<td>112</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treaded (3/8”) Hand Wheel On The Left</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.0120</td>
<td>0.0113</td>
<td>0.0133</td>
<td>0.0153</td>
<td>0.0193</td>
<td>0.0233</td>
<td>0.0283</td>
<td>0.0353</td>
</tr>
<tr>
<td>B</td>
<td>0.0098</td>
<td>0.0102</td>
<td>0.0160</td>
<td>0.0216</td>
<td>0.0276</td>
<td>0.0336</td>
<td>0.0406</td>
<td>0.0476</td>
</tr>
<tr>
<td>C</td>
<td>0.0079</td>
<td>0.0085</td>
<td>0.0142</td>
<td>0.0203</td>
<td>0.0268</td>
<td>0.0338</td>
<td>0.0403</td>
<td>0.0478</td>
</tr>
<tr>
<td>D</td>
<td>0.0068</td>
<td>0.0074</td>
<td>0.0130</td>
<td>0.0192</td>
<td>0.0256</td>
<td>0.0320</td>
<td>0.0384</td>
<td>0.0458</td>
</tr>
<tr>
<td>E</td>
<td>0.0057</td>
<td>0.0063</td>
<td>0.0119</td>
<td>0.0181</td>
<td>0.0245</td>
<td>0.0309</td>
<td>0.0373</td>
<td>0.0437</td>
</tr>
</tbody>
</table>

**FIG. 6**

CROSS FEEDS ARE ABOUT ONE THIRD THAT OF LONGITUDINAL FEEDS.

**CAUTION: "DO NOT CHANGE GEARS WHEN THE SPINDLE IS RUNNING"**

**CARRIAGE**

The function of the carriage is to rigidly support the cutting tool and move it along or across the bed for turning, facing, boring or threading operations.
POWER FEED
For Longitudinal power feed pull up the cross/longitudinal feed lever.
The direction of the carriage traverse is selected from the headstock.
For cross feed push down CROSS/LONGITUDINAL feed lever.
While the cross/longitudinal feed lever is in position, the half-nut lever cannot be engaged
The built-in safety interlock mechanism will prevent simultaneous engagement of this lever and
the half-nut lever.
Half-nut lever engages the half nuts with the lead screw for threading. To engage, put cross/
longitudinal feed lever in neutral position and engage the half-nut lever downwards in mesh
with the threads of the leadscrew.
CAUTION: DO NOT FORCE THE HALF-NUT LEVER WHILE ENGAGING WITH THE
LEAD SCREW.

THREADING DIAL
The threading dial is located on the right side of the apron. It performs the important function
of indicating the proper time to engage the half-nut lever so that the tool will enter the same
groove of the thread on each successive cut. The dial is marked with lines numbered 1, 2, 3, 4, and in
between are lines with no numbers. These are half lines and are called unnumbered lines. The dial when
engaged with the leadscrew will cause the rotation of the dial. A single line is marked on the housing of
the threading dial (fixed line).
The instruction plate riveted on the threading dial shows the selection and sequence of matching the
revolving lines with the fixed line. (Fig. 7)
For thread cutting engage the half-nuts at the appropriate numbers shown on the scale column of
the threading dial plate. 1-4 on the scale means, the half-nuts can be engaged on any/of the numbered
lines 1-2-3-4 for each successive cut.
If the numbered lines are used for the first cut, for successive cuts only numbered lines must be used.
1-3
2-4 on the scale means the half-nuts can be engaged on 1 and 3 or 2 and 4 for successive
cuts.
1-8 on the scale means the half-nuts can be engaged on any line, numbered or or unnumbered.

FIG. 7
FOUR POSITION TOOL POST
By turning the tool post lock handle counter clockwise, the tool can be rapidly indexed and locked in position.

TAILSTOCK
The tailstock slides along the bedways and may be anchored in any position by moving the clamp lever.

To slide the quill, rotate the tailstock handwheel.

The quill can be locked by the quill lock lever.

For small tapers, the tailstock can be set over by loosening the clamp lever and adjusting the SET-OVER SCREWS on the front of and the rear of the tailstock base.

FIG. 8

Table of thread cutting
(screw pitch in m/m)

<table>
<thead>
<tr>
<th>THREADING</th>
<th>mm</th>
<th>INCH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>A</td>
<td>6</td>
<td>4.8</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
<td>2.4</td>
</tr>
<tr>
<td>C</td>
<td>1.5</td>
<td>1.2</td>
</tr>
<tr>
<td>D</td>
<td>0.75</td>
<td>0.6</td>
</tr>
<tr>
<td>E</td>
<td>0.3</td>
<td>0.25</td>
</tr>
<tr>
<td>A</td>
<td>7.5</td>
<td>6</td>
</tr>
<tr>
<td>B</td>
<td>3.75</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td>D</td>
<td>0.75</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>0.45</td>
<td></td>
</tr>
</tbody>
</table>

FIG. 9
Tailstock Assembly
Top Slide, Tool Post, Saddle, and Cross Slide