Reference to Fig. 34 will show that the countershaft clutch consists of a split metal clutch ring (1) which can be expanded to grip the bore of the countershaft cone pulley (2). This expansion is accomplished by a wedge-shaped push-rod (3) which is thrust outwards by axial movement of the clutch actuating shaft (4).

During the early life of the machine, a certain amount of bedding in takes place between the clutch ring and the bore of the cone pulley and it may be necessary to reset the push-rod (3). Setting of the push-rod is by rotating the adjusting screw (5) which is secured by the locking screw (6). A screwed plug (7) is provided in the large pulley step for access to the locking and adjusting screws.
IMPORTANT. The clutch lever must be moved to the "engaged" or gripping position before any attempt is made to adjust the push-rod.

To increase the grip of the clutch. Remove the screwed plug (7) and rotate the countershaft until the adjusting screw (5) coincides with the access hole.
Remove locking screw (6).
Rotate adjusting screw (5) in a clockwise direction to thrust down on the actuating shaft (4).
Replace locking screw (6) and test the clutch under load.
If the grip is insufficient, increase the pressure of adjusting screw (5).
Replace locking screw (6) and screwed plug (7).

Tumbler Reverse

The Tumbler Reverse or Leadscrew Reverse gear, provides a quick means of changing the rotation of the leadscrew drive to reverse the direction of travel of the lathe carriage. The central lever position is neutral and disengages the leadscrew drive.

Reference to Fig. 36 will show that the tumbler reverse assembly is supported on the headstock by a long swivel pin (1) which is a press fit in the tumbler reverse lever (2). The assembly is retained in position by the thrust screw (3) which draws the tumbler reverse lever back against the pivot boss facing on the headstock.

NOTE. It is important that the thrust screw (3) be set with light pressure only. Heavy pressure may extract the swivel pin (1) from its position in the tumbler reverse lever.

Power Carriage Feeds

Standard change gear lathes are equipped with a set of 14 change wheels for cutting various screw threads and obtaining various power longitudinal feeds.

To set up the lathe for threading or feeding, refer to the change wheel chart inside the change wheel guard Figs. 39 and 40.

The thread pitch, or feed, to be set up will be located in the first two columns under the headings T.P.I. and Feed per Rev., respectively. In the third column under the heading DRIVER is listed a number of teeth in the change wheel which should be placed on the tumbler reverse stud.

In the fourth and fifth columns under 1st stud and 2nd stud are shown the gears or pairs of gears which should be placed on the 1st and 2nd studs respectively.

The sixth column lists the gear to be placed on the leadscrew under the heading LEADSCREW.

The column headed SET-UP refers to the number of the diagram, Fig. 38, which will indicate the arrangement of gears and spacers for the pitch in question, see also Fig. 37 which shows set-up as in Diagram 3, Fig. 38.

When setting up the gear train sufficient backlash between each pair of meshing gears should be allowed. When the lathe is in operation the play in the gears is automatically taken up according to the direction of travel; the amount of gear clearance does not influence the accuracy of thread cutting. Gear noise can be reduced by the application of grease, preferably graphited.
Tailstock Gib Adjustment

Refer to Fig. 45. Release gib securing screws (1) and retighten until just nipped.

Adjust thrust screws (2) just sufficiently to remove all trace of play of the tailstock relative to the bed shears, but without causing undue friction.

Retighten gib securing screws and check for freedom of movement but lack of ‘play’.

Fig. 45.

REPLACEMENT OF HEADSTOCK VEE BELT

In order to change the vee belt it is necessary partially to dismantle the countershaft and headstock spindles. Both spindles must be withdrawn from their respective bearings sufficiently to allow removal of the vee belt.

The countershaft spindle is formed with a slight step to provide the necessary light press fit to the cone pulley ball-race, the larger diameter being at the Clutch lever end. Consequently the spindle can only be withdrawn in the direction towards the tailstock from the two step pulley.

IMPORTANT. Any attempt to withdraw in the opposite direction will result in damage to the roller bearings in the cone pulley and swing head.

The headstock and countershaft ball bearings are arranged with an interference fit on their respective spindle diameters. Reassembly of these units will be greatly facilitated if the appropriate portions of the spindles are greased before introduction to the ball bearings.

Countershaft Clutch Unit

By reference to Fig. 34 on Page 23 it will be seen that withdrawal of the countershaft spindle is not possible until the clutch operating rod and lever have been removed and all securing screws have been disengaged from the spindle.

To withdraw clutch spindle. Remove screwed plug (7) and rotate countershaft till the adjusting screw (5) coincides with the access hole.

Remove Locking Screws (6).

Release adjusting screw (5) and withdraw as far as it will go. This will completely disengage the adjusting screw from the hole in the countershaft spindle and permit removal of the clutch operating rod.
MYFORD SUPER 7 3½” CENTRE LATHE

Disengage securing screw (12) and tap out swivel pin (13) to free clutch operating lever. Ensure that the plunger (14) and spring (15) do not fly out and become lost.

Remove complete clutch operating lever and rod assembly.

Disengage screws (10 and 11) which secure the pulley retaining collar (16) and clutch backplate.

Release screw (8) withdraw pulley and remove woodruff key.

Tap out shaft in the direction indicated above, sufficiently to allow the pulley retaining collar to be removed. This will give ample room for removal and replacement of vee belt.

Reassemble and adjust clutch as directed on Page 23.

Headstock Spindle

First read the description and instructions with regard to Adjustment of Spindle Bearings (page 21) which will provide detailed information on the construction and operation of the headstock spindle.

Spindle Withdrawal. Refer to Fig. 31. Slacken screw (3) just sufficiently to allow adjusting collar (4) to be turned.

Remove adjusting collar.

Withdraw sleeve gear (7) and remove woodruff key.

Release the screw securing the 60T backgear to the spindle.

Tap out the spindle in the direction towards the tailstock until it is free of the interference fit in the rear ball bearings.

Complete the withdrawal of the spindle and remove the pulley and 60T backgear, which should be held together as a single unit. The distance sleeve (6) should be left in position, supported by the bore of the screwed ring (1).

Remove and replace vee belt.

Reassemble, setting the 60T backgear in the axial position which allows approximately 005” end play between the cone pulley and the distance sleeve (6).

Adjust the rear ball bearings as per the instructions on Page 22.
# SECTION H

## HEADSTOCK ASSEMBLY

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>No. Off/Mc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1994</td>
<td>Oil Nipple</td>
<td>2</td>
</tr>
<tr>
<td>A1995</td>
<td>Vee Cone Pulley Assembly</td>
<td>1</td>
</tr>
<tr>
<td>A2004</td>
<td>60T. Backgear Assembly</td>
<td>1</td>
</tr>
<tr>
<td>A2002/15</td>
<td>Lever for Backgear Key</td>
<td>1</td>
</tr>
<tr>
<td>A2003</td>
<td>Backgear Key</td>
<td>1</td>
</tr>
<tr>
<td>A1999</td>
<td>Spring</td>
<td>2</td>
</tr>
<tr>
<td>A1995</td>
<td>Steel Ball</td>
<td>1</td>
</tr>
<tr>
<td>MY1422</td>
<td>Socket Grubscrew (½&quot; B.S.F. x 3/8&quot;)</td>
<td>1</td>
</tr>
<tr>
<td>A1980</td>
<td>Thumb Nut</td>
<td>1</td>
</tr>
<tr>
<td>A1979</td>
<td>Stud</td>
<td>1</td>
</tr>
<tr>
<td>A3021</td>
<td>Plunger</td>
<td>1</td>
</tr>
<tr>
<td>A3025</td>
<td>Spring</td>
<td>1</td>
</tr>
<tr>
<td>A1972</td>
<td>Socket Grubscrew (3/16&quot; B.S.F. x 1&quot;)</td>
<td>1</td>
</tr>
<tr>
<td>A1940</td>
<td>Adjusting Ring</td>
<td>1</td>
</tr>
<tr>
<td>A1938</td>
<td>Cap Head Screw (3/16&quot; B.S.F. x 1&quot;)</td>
<td>1</td>
</tr>
<tr>
<td>A1982</td>
<td>Control Screw</td>
<td>1</td>
</tr>
<tr>
<td>A1981</td>
<td>Spring</td>
<td>1</td>
</tr>
<tr>
<td>A1946</td>
<td>Cover</td>
<td>1</td>
</tr>
<tr>
<td>A1978</td>
<td>Valve Body</td>
<td>1</td>
</tr>
<tr>
<td>A1968</td>
<td>Spindle Bearing (Front)</td>
<td>1</td>
</tr>
<tr>
<td>A1992</td>
<td>Spindle</td>
<td>1</td>
</tr>
<tr>
<td>MY2032</td>
<td>Woodruff Key No. 30</td>
<td>1</td>
</tr>
<tr>
<td>23</td>
<td>60° Centre (Soft)</td>
<td>1</td>
</tr>
<tr>
<td>A1982</td>
<td>Thimble</td>
<td>1</td>
</tr>
<tr>
<td>A1983</td>
<td>Cap and Glass Assembly</td>
<td>1</td>
</tr>
<tr>
<td>MY301</td>
<td>Socket Grubscrew (2 B.A. x 3/16&quot;)</td>
<td>1</td>
</tr>
<tr>
<td>MY1987</td>
<td>Backgear Eccentric Retaining Screw</td>
<td>1</td>
</tr>
<tr>
<td>A294</td>
<td>Vee Belt (Headstock)</td>
<td>1</td>
</tr>
<tr>
<td>29</td>
<td>Ball Bearing (Hoffman 125 Angular Contact)</td>
<td>1</td>
</tr>
<tr>
<td>A1991</td>
<td>Bearing Spacing Washer</td>
<td>1</td>
</tr>
<tr>
<td>A2053</td>
<td>Distance Sleeve</td>
<td>1</td>
</tr>
<tr>
<td>A2761</td>
<td>Pulley Lock Assembly</td>
<td>1</td>
</tr>
<tr>
<td>A2053</td>
<td>Adjusting Collar</td>
<td>1</td>
</tr>
<tr>
<td>MY2411</td>
<td>Cap Head Screw (2 B.A. x 3/16&quot;)</td>
<td>1</td>
</tr>
<tr>
<td>A20035</td>
<td>Gear Stud with A.2159 Plug</td>
<td>1</td>
</tr>
<tr>
<td>A200636</td>
<td>30T. Tumbler Gear</td>
<td>1</td>
</tr>
<tr>
<td>A19953</td>
<td>30T. Gear</td>
<td>1</td>
</tr>
<tr>
<td>A2005438</td>
<td>Tumbler Reverse Stud</td>
<td>1</td>
</tr>
<tr>
<td>MY1903</td>
<td>Hexagon Locknut (3/8&quot; B.S.F.)</td>
<td>1</td>
</tr>
<tr>
<td>A199736</td>
<td>Tumbler Reverse Locating Screw</td>
<td>1</td>
</tr>
<tr>
<td>A1994741</td>
<td>Headstock</td>
<td>1</td>
</tr>
<tr>
<td>A2023</td>
<td>Pad</td>
<td>1</td>
</tr>
<tr>
<td>A1999</td>
<td>Tumbler Sleeve Gear Retaining Screw</td>
<td>1</td>
</tr>
<tr>
<td>MY2020</td>
<td>Washer</td>
<td>1</td>
</tr>
<tr>
<td>A1998045</td>
<td>Tumbler Sleeve Gear Assembly</td>
<td>1</td>
</tr>
<tr>
<td>A200746</td>
<td>2BT. Tumbler Gear</td>
<td>1</td>
</tr>
<tr>
<td>MY450349</td>
<td>C/Sunk Head Screw. (2 B.A. x 3/16&quot;)</td>
<td>1</td>
</tr>
<tr>
<td>A199950</td>
<td>Washer</td>
<td>1</td>
</tr>
<tr>
<td>A199571</td>
<td>17/53T. Backgear Cluster</td>
<td>1</td>
</tr>
<tr>
<td>A19961</td>
<td>Backgear Eccentric</td>
<td>1</td>
</tr>
<tr>
<td>MY307353</td>
<td>Socket Grubscrew (2 B.A. x 3/16&quot;)</td>
<td>1</td>
</tr>
<tr>
<td>A199655</td>
<td>Tumbler Reverse Lever (A.1996 Lever Assy)</td>
<td>1</td>
</tr>
<tr>
<td>A1999156</td>
<td>Backgear Lever</td>
<td>1</td>
</tr>
<tr>
<td>A3021</td>
<td>Plunger</td>
<td>1</td>
</tr>
<tr>
<td>A302558</td>
<td>Spring</td>
<td>1</td>
</tr>
<tr>
<td>75/122659</td>
<td>Screwed Bush</td>
<td>1</td>
</tr>
<tr>
<td>MY450360</td>
<td>Knob</td>
<td>1</td>
</tr>
</tbody>
</table>

*This part does not apply to Super 7B Quick Change Lathes, but is included with the loose equipment being required for use in conjunction with 1481 Metric Conversion Set and A.2469 Slotted Quadrant.*
## SECTION N

New Clutch commences SK 8126.
New Headstock Oiling System SK 9167.

### MOTORISING ASSEMBLY

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>No. Off/Mc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MY19071</td>
<td>Hexagon Locknut (1/4&quot; B.S.F.)</td>
<td>6</td>
</tr>
<tr>
<td>A20242</td>
<td>Hinge Screw</td>
<td>2</td>
</tr>
<tr>
<td>A20273</td>
<td>Twin Vee Pulley</td>
<td>1</td>
</tr>
<tr>
<td>A19734</td>
<td>Thrust Washer</td>
<td>2</td>
</tr>
<tr>
<td>MY47235</td>
<td>Socket Grubscrew (1/&quot; B.S.F. x 3/4&quot; Flat Point)</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>Oil Nipple</td>
<td>3</td>
</tr>
<tr>
<td>A24408</td>
<td>Grubscrew (4/4&quot; B.S.F. x 3/4&quot;)</td>
<td>1</td>
</tr>
<tr>
<td>MY36059</td>
<td>Cap Head Screw (4 B.A. x 1/4&quot;)</td>
<td>2</td>
</tr>
<tr>
<td>A201810</td>
<td>Adjusting Screw</td>
<td>1</td>
</tr>
<tr>
<td>A201711</td>
<td>Push Rod</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>YWoodruff Key No. 90</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>Socket Grubscrew (4/4&quot; B.S.F. x 3/8&quot;)</td>
<td>2</td>
</tr>
<tr>
<td>A214814</td>
<td>Collar</td>
<td>1</td>
</tr>
<tr>
<td>15</td>
<td>‘OIlite’ Bush (CT 18 x 3/4&quot;) 1&quot;od x 0.75&quot;Id x 0.75&quot; long</td>
<td>4</td>
</tr>
<tr>
<td>A201516</td>
<td>Vee Cone Pulley (Assembly)</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Ball Bearing [KNJ 3/4&quot;]</td>
<td></td>
</tr>
<tr>
<td>A201918</td>
<td>Clutch Ring</td>
<td></td>
</tr>
<tr>
<td>MY371419</td>
<td>Socket Grubscrew (4/4&quot; B.S.F. x 3/4&quot;)</td>
<td>2</td>
</tr>
<tr>
<td>A201620</td>
<td>Clutch Backplate</td>
<td>1</td>
</tr>
<tr>
<td>MY260521</td>
<td>Hexagon Head Set Screw (4/4&quot; B.S.F. x 1&quot;)</td>
<td>2</td>
</tr>
<tr>
<td>DY320322</td>
<td>Washer (4/4&quot; B.S.F.)</td>
<td>3</td>
</tr>
<tr>
<td>A193623</td>
<td>Swing Head (A2013 Sub Assembly)</td>
<td></td>
</tr>
<tr>
<td>A194124</td>
<td>Hinge Bracket</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Ball Bearing (Hoffman S.I.)</td>
<td></td>
</tr>
<tr>
<td>MY180229</td>
<td>Hexagon Nut (4&quot; B.S.F.)</td>
<td>4</td>
</tr>
<tr>
<td>A2021130</td>
<td>Countershaft</td>
<td></td>
</tr>
<tr>
<td>A202131</td>
<td>Actuating Shaft Locating Pin</td>
<td></td>
</tr>
<tr>
<td>DS1/92232</td>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>A202433</td>
<td>Plunger</td>
<td></td>
</tr>
<tr>
<td>A202834</td>
<td>Clutch Lever</td>
<td></td>
</tr>
<tr>
<td>A202835</td>
<td>Trunnion</td>
<td></td>
</tr>
<tr>
<td>A202636</td>
<td>Trunnion Supporting Screw</td>
<td></td>
</tr>
<tr>
<td>A227337</td>
<td>Motor Pulley (4&quot; Dia. Bore)</td>
<td></td>
</tr>
<tr>
<td>A195538</td>
<td>Sleeve Nut</td>
<td></td>
</tr>
<tr>
<td>A201439</td>
<td>Swinghead Pivot Shaft</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Knob</td>
<td></td>
</tr>
<tr>
<td>A205041</td>
<td>Clamp Screw</td>
<td></td>
</tr>
<tr>
<td>A202242</td>
<td>Washer</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>Hexagon Locknut (1/4&quot; B.S.F.)</td>
<td></td>
</tr>
<tr>
<td>A203744</td>
<td>Lever Extension</td>
<td></td>
</tr>
<tr>
<td>A202945</td>
<td>Actuating Shaft</td>
<td></td>
</tr>
<tr>
<td>A180746</td>
<td>Clutch Lever Pivot Pin</td>
<td></td>
</tr>
<tr>
<td>A203147</td>
<td>Eye Bolt</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>Socket Grubscrew (2 B.A. x 4/4&quot;)</td>
<td></td>
</tr>
<tr>
<td>MY371249</td>
<td>Socket Grubscrew (4/4&quot; B.S.F. x 4/4&quot;) (Pivot Shaft Locating)</td>
<td>1</td>
</tr>
<tr>
<td>A204650</td>
<td>Tie Bar</td>
<td>2</td>
</tr>
</tbody>
</table>

**NOTE:** Some machines have needle roller bearings type M1212ZOH

*Continued Overleaf*
SECTION N

MOTORISING ASSEMBLY

Continued

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>No. Off/Mc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2038</td>
<td>Cam Shaft and Lever Assembly</td>
<td>1</td>
</tr>
<tr>
<td>A2051</td>
<td>Clamp Screw Head</td>
<td>1</td>
</tr>
<tr>
<td>A1945</td>
<td>Motor Platform</td>
<td>1</td>
</tr>
<tr>
<td>MY3702</td>
<td>Socket Grub screw (2 B.A. x ¾”)</td>
<td>1</td>
</tr>
<tr>
<td>A2012</td>
<td>Tension Spring</td>
<td>3</td>
</tr>
<tr>
<td>MY3405</td>
<td>Round Head Screw (2 B.A. x ¾”)</td>
<td>6</td>
</tr>
<tr>
<td>A2123</td>
<td>Adjusting Screw</td>
<td>2</td>
</tr>
<tr>
<td>MY4325</td>
<td>Cam Shaft Locating Screw</td>
<td>1</td>
</tr>
<tr>
<td>A2045</td>
<td>Motor Platform Pivot Pin</td>
<td>1</td>
</tr>
<tr>
<td>A1933/160</td>
<td>Countershaft Arm</td>
<td>1</td>
</tr>
<tr>
<td>DY3210</td>
<td>Washer (¼” B.S.F.)</td>
<td>2</td>
</tr>
<tr>
<td>MY1909</td>
<td>Hexagon Locknut (½” B.S.F.)</td>
<td>2</td>
</tr>
<tr>
<td>MY2604</td>
<td>Hexagon Head Set Screw (1” B.S.F. x ¾”)</td>
<td>4</td>
</tr>
<tr>
<td>A2011</td>
<td>Stud</td>
<td>1</td>
</tr>
<tr>
<td>A204465</td>
<td>Spring Clip</td>
<td>2</td>
</tr>
<tr>
<td>A2023</td>
<td>Pad</td>
<td>1</td>
</tr>
<tr>
<td>A2028×67</td>
<td>Motor Pulley (⅝” Bore)</td>
<td>1</td>
</tr>
<tr>
<td>MY3622</td>
<td>Cap Head Screw (1” B.S.F. x 1⅜”)</td>
<td>1</td>
</tr>
<tr>
<td>A2151</td>
<td>Speed Chart</td>
<td>1</td>
</tr>
<tr>
<td>70</td>
<td>Rivets</td>
<td>4</td>
</tr>
<tr>
<td>MY2603</td>
<td>Hexagon Head Set Screw (1½” B.S.F. x ¾”)</td>
<td>1</td>
</tr>
<tr>
<td>1350</td>
<td>Vee Belt (Motor Drive)</td>
<td>1</td>
</tr>
<tr>
<td>A2043</td>
<td>Hinge Screw</td>
<td>2</td>
</tr>
<tr>
<td>78</td>
<td>Handle</td>
<td>1</td>
</tr>
<tr>
<td>DY3404</td>
<td>Round Head Screw (⅝” Whit. x ⅜”)</td>
<td>2</td>
</tr>
<tr>
<td>A2128</td>
<td>Split Collar</td>
<td>1</td>
</tr>
<tr>
<td>MY4722</td>
<td>Socket Grub screw (⅝” Whit. x ⅜” Flat Point)</td>
<td>1</td>
</tr>
<tr>
<td>A1454/182</td>
<td>Motor Drive Belt Guard (filled handle)</td>
<td>1</td>
</tr>
<tr>
<td>83</td>
<td>Knob</td>
<td>1</td>
</tr>
<tr>
<td>A3020</td>
<td>Spring Clip</td>
<td>1</td>
</tr>
<tr>
<td>A1944/185</td>
<td>Motor Drive Belt Guard Backplate</td>
<td>1</td>
</tr>
<tr>
<td>A1935/186</td>
<td>Headstock Belt Guard</td>
<td>1</td>
</tr>
<tr>
<td>A2936/17/887</td>
<td>Roller and Plunger Assembly</td>
<td>1</td>
</tr>
<tr>
<td>A2939/88</td>
<td>Spring</td>
<td>1</td>
</tr>
<tr>
<td>89</td>
<td>Round Head Screw (2 B.A. x ¾”)</td>
<td>1</td>
</tr>
</tbody>
</table>

* Standard bore size—other bores available—state exact size required when ordering.

---

Headstock Belt Guards

SK 6542 onwards := A1935/1
SK 7402 " := A1935/2

---

48