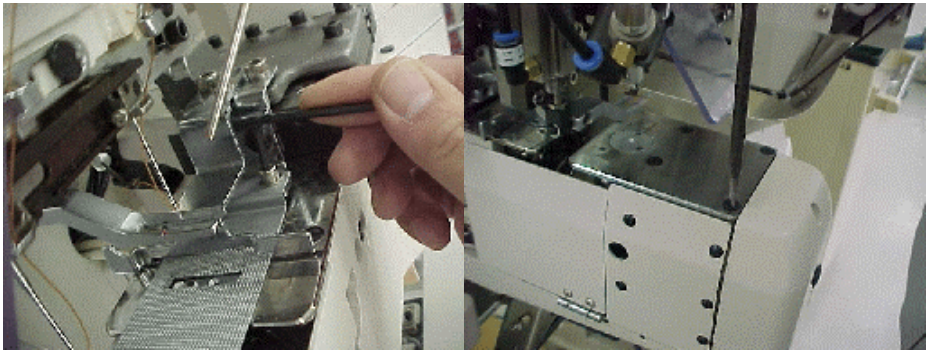
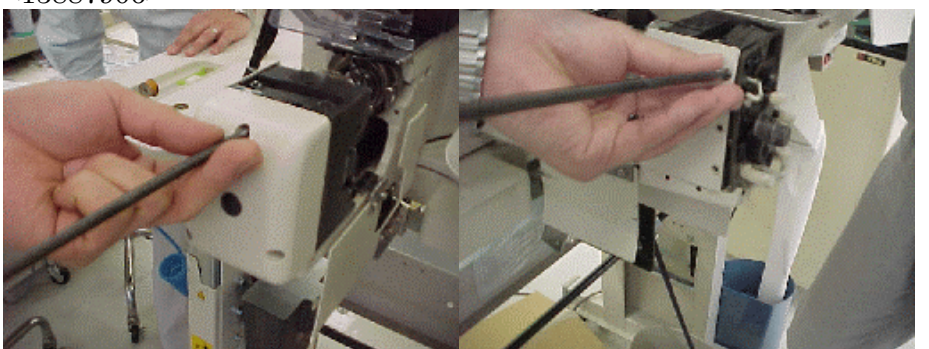
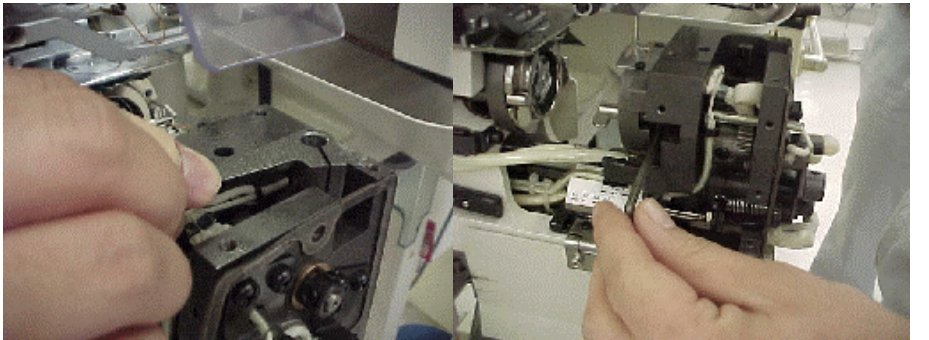
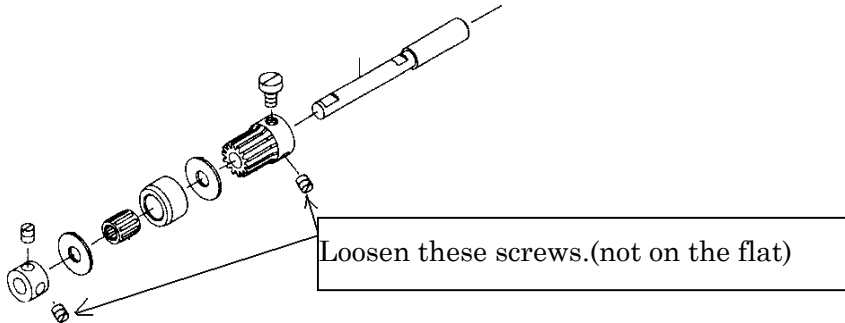
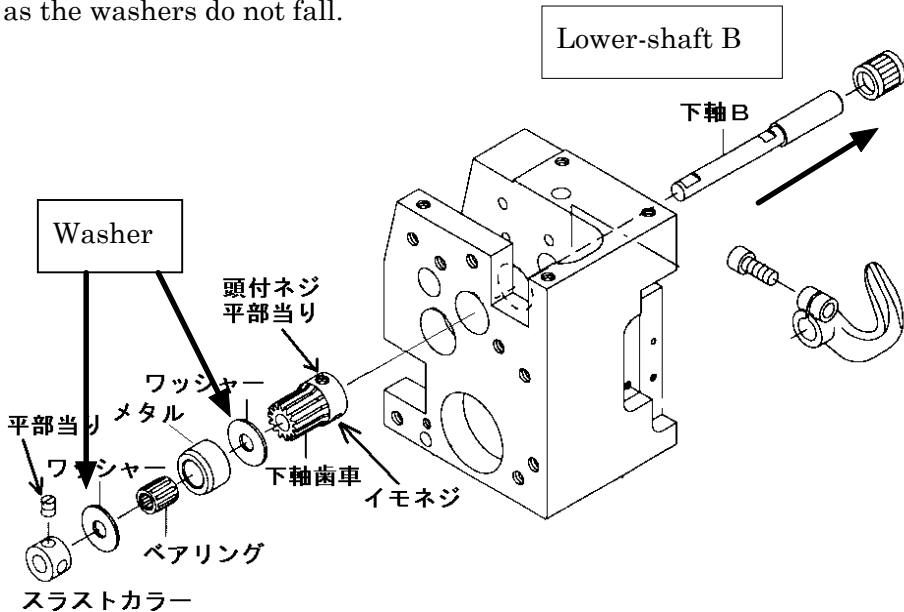
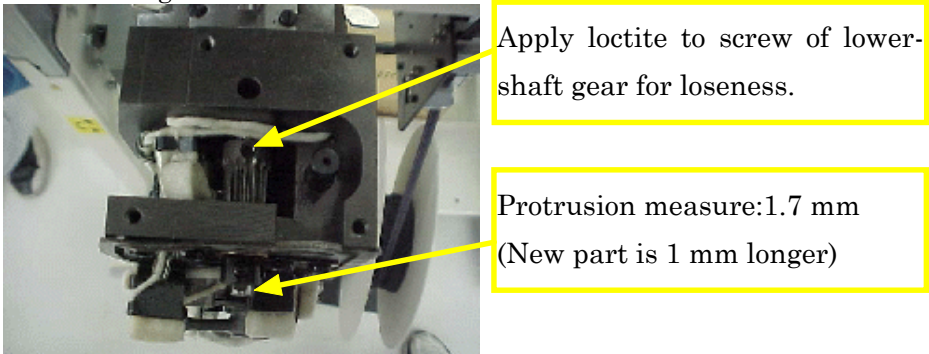
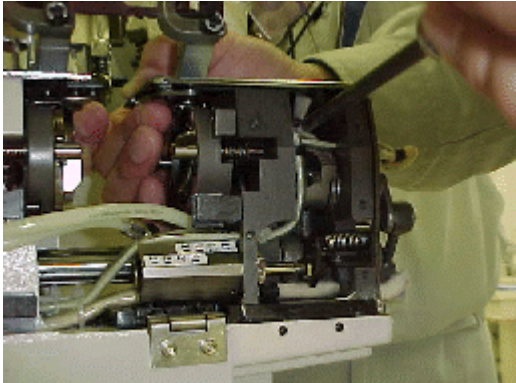


No.	Procedure	Tool
1.	Remove the power supply and air.	
2.	Take out cloth presser lower plate <13880406> and needle-plate. <14412506>	Allen-key (M3) Screw-driver (-)
		
3.	Take out hook base cover <14419600>, and hook base cover left. <13887906>	Screw-driver (-)
		
4.	Take out thread cutting arm <13887450>, bobbin<B1806210D00>, bobbin case <B1828210DAA>, shuttle race ring <B1817210DAC>, and shuttle driver.<B1812210D00>	Screw-driver (-) Allen-key (M4)
		

<p>5.</p>	<p>Loosen screw of the lower-shaft gear <14418305> (not on the flat) and screw of the thrust-collar<B2579229000> (not on the flat).</p> 	<p>Screw-driver (-)</p>
<p>6.</p>	<p>Turn main-shaft until flat comes right up position. Keep this position, loosen the screw on the flat, pull-out lower-shaft B <14418206> to the other side. At this time it is better which you put in a other shaft from the front side, as the washers do not fall.</p> 	<p>Allen-key (M3)</p>

<p>7.</p>	<p>Install the new lower-shaft B as flat upward. Tighten the screw of thrust-collar to make 1.7mm from the edge of lower-shaft B. At this time it need no-play with lower-shaft gear and lower-shaft gear B.</p> 	<p>Loctite</p>
<p>8.</p>	<p>Turn the main-shaft, tighten the screw of not on flat. (Apply loctite to the screw) Check again, there is no axis-play at the lower-shaft B.</p>	<p>Allen-key (M3,M4)</p>
<p>9.</p>	<p>Install the shuttle-driver, and adjust hook. (It is easy, before needle-plate installation.)</p>	<p>Allen-key (M4)</p>
<p>10.</p>	<p>Install the thread cutting arm (not tighten), then attach the needle-plate. (Check, the thread cutting arm boss enters into the moving knife link hole, and also the needle enter center of the needle plate hole) Supply air and adjust original position of the moving knife, tighten the screw of thread cutting arm. (Distance from needle-plate edge to moving knife top is 1.2 mm.) Refer, page 76 of the instruction manual or page 23 of engineer's manual.</p> 	<p>Screw-driver (-)</p>
<p>11.</p>	<p>Install the hook base cover and hook base cover left. Sewing test, and cleaning</p>	<p>Screw-driver (-)</p>