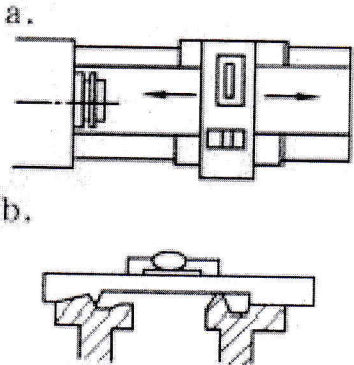
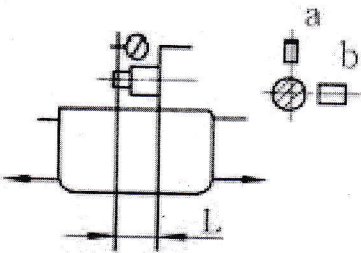
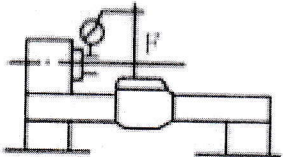
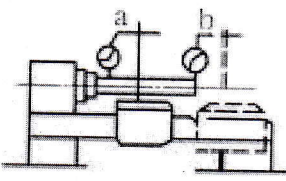
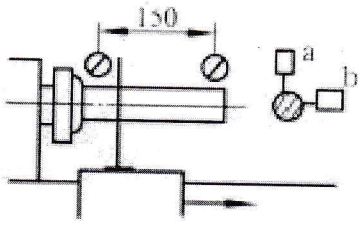


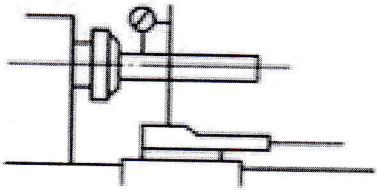
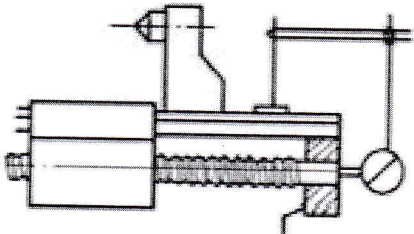
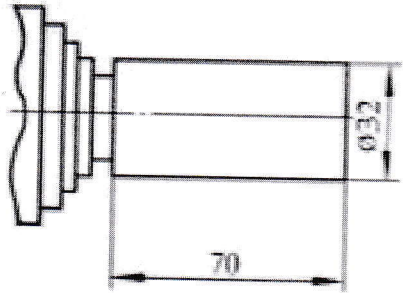
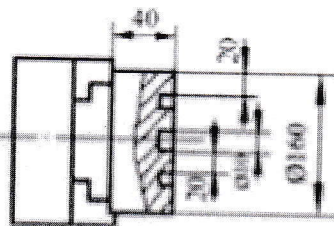
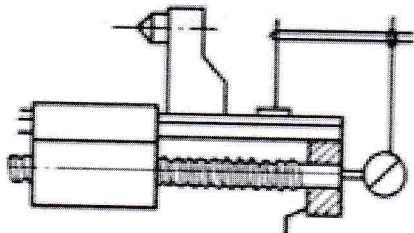
## TEST PROTOCOL

| No. | Diagram of measuring method   | Inspection item  | Tolerance                   | Data         |
|-----|---|--|-----------------------------|--------------|
| G1  |    | a. Alignment of longitudinal bed slide ways in vertical plane  | Full travel<br>0.25 (+)     |              |
|     |   | b. Parallelism of transverse direction   | 1000:0.06                   |              |
| G2  |   | Parallelism of tailstock to longitudinal motion of carriage.<br>a. In vertical plane<br>b. In horizontal plane                             | a. 500:0.03<br>b. 500:0.025 |              |
| G3  |  | Spindle nose run out   | 0.015                       | 0.01         |
| G4  |  | Spindle taper run out<br>a. At the end of spindle nose<br>b. At the end of 300mm test bar  | a. 0.01<br>b. 300:0.03      | 0.01<br>0.03 |
| G5  |  | Parallelism of spindle center line to longitudinal motion of carriage<br>a. In vertical plane (upward)<br>b. In horizontal plane (forward) | a. 300:0.02<br>b. 300:0.02  | 0.04         |

| No. | Diagram of measuring method | Inspection item | Tolerance | Data |
|-----|-----------------------------|-----------------|-----------|------|
|-----|-----------------------------|-----------------|-----------|------|

| No. | Diagram of measuring method | Inspection item  | Tolerance                                    | Data |
|-----|-----------------------------|--|--|------|
| G6  |                             | Spindle center run out   | 0.02   |      |
| G7  |                             | Parallelism of center line of tailstock spindle to longitudinal motion of carriage<br>a. In vertical plane<br>b. In horizontal plane | a. 200:0.03<br>b. 200:0.03                   |      |
| G8  |                             | Difference in center height between headstock and tailstock (tailstock upward)   | 0.06   |      |
| G9  |                             | Spindle<br>a. Axial run out<br>b. Run out on spindle base plane  | a. 0.015<br>b. 0.02 (axial run out included) |      |
| G10 |                             | Verticality of cross slide to spindle center line  | 0.02/150<br>a $\geq 90^\circ$                |      |



|     |   |  |                         |  |
|-----|---|--|-------------------------|--|
| G11 |    | Parallelism of top slide to spindle center line                      | 0.04                    |  |
| G12 |    | Lead screw cam action  | 0.03                    |  |
| G13 |   | Accuracy of outside round cutting<br>a. Roundness<br>b. Cylindricity | a. 0.015<br>b. 300:0.04 |  |
| G14 |  | Flatness of the face for finishing cutting (concave)                 | 0.015 (for Ø 160mm)     |  |
| G15 |  | Precisely thread cutting on work piece between two centers (steel)   | 7g                      |  |

Date: \_\_\_\_\_

Supervisor: \_\_\_\_\_