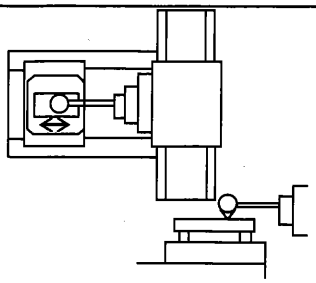
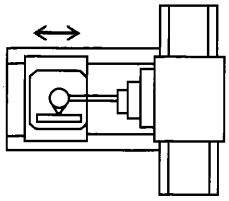
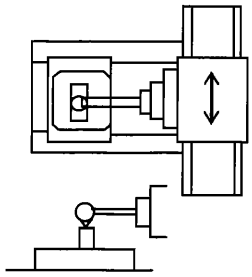
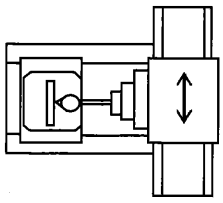
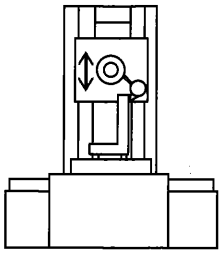
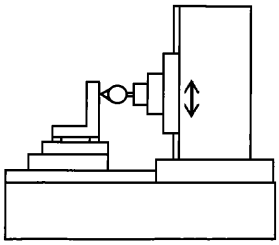
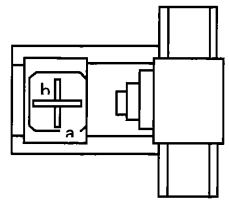
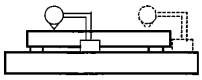
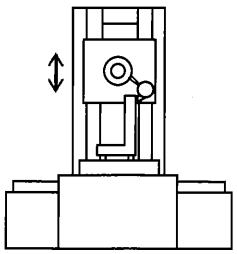
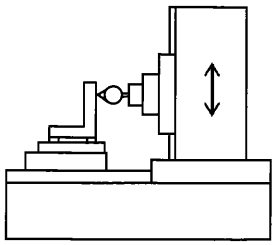
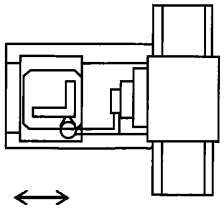
2－2 Static accuracy test SN2917 Doug Akin 07092018

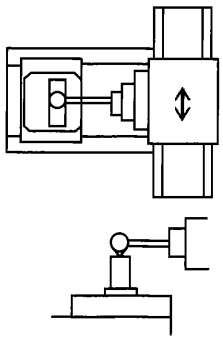
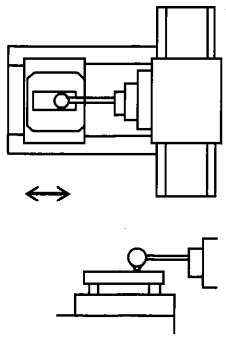
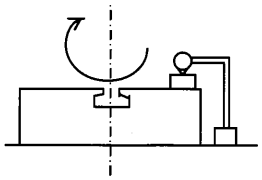
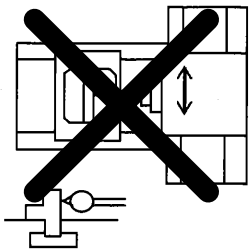
Unit : inch

No	Inspection item	Measurement Procedure	Illustration	Tolerance	Measured value
1	Straightness of table in Z direction	Place the column in the center of the X-axis, and place a straight rule on the pallet top surface. Bring the test indicator (fixed to the spindle head) into contact with the straight rule. Move the table in the Z-axis direction. The maximum difference in the readings of the test indicator shall be the measured value. *(1)		0.00028 per 20 inch	a : Y axis direction .0002 0.00004
				0.00028 per 20 inch	b : X axis direction .0001 0.00004
2	Straightness of column in X direction	Place a straight rule on the pallet. Bring the test indicator (fixed to the spindle head) into contact with the straight rule. Move the column in the X-axis direction. The maximum difference in the readings of the test indicator shall be the measured value. *(1)		0.00028 per 20 inch	a : Y axis direction .0002 0.00004
				0.00028 per 20 inch	b : Z axis direction .0001 0.00004
3	Straightness of spindle head move-ment in the direction of the Y axis	Place the column in the center of the X-axis, and a 4-face square gauge on the pallet top surface. Bring the test indicator (fixed to the spindle head) into contact with the square. Move the spindle head in the Y-axis direction. The maximum difference in the readings of the test indicator shall be the measured value. *(2)		0.00028 per 20 inch	a : X-Y plane .0002 0.00004
				0.00028 per 20 inch	b : Y-Z plane .0002 0.00004

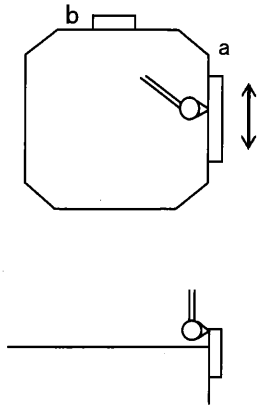
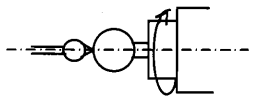
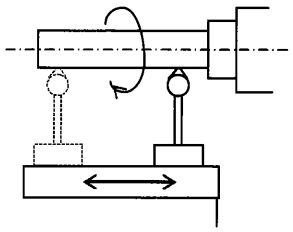
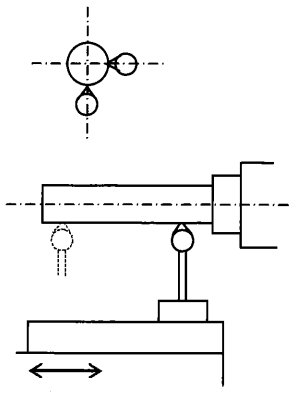
Unit : inch

No	Inspection item	Measurement Procedure	Illustration	Tolerance	Measured value
4	Straightness of pallet top	Index the pallet at 0° and place a straight rule at 3 different points (center and nearest edges) on the pallet top. Bring the test indicator into contact with the straight rule, and move the test indicator along the pallet top. Read the test indicator at each of the 3 points (center and nearest edges). The maximum difference in the readings shall be the measured value. This measurement may be performed with a precision level and the 2-points chain method. *(1)	 	0.00040 per 16 inch	No,1 a .0002 0.00012
					No,2 a 0.00008
				0.00040 per 16 inch	No,1 b .0002 0.00020
					No,2 b 0.00024
5	Squareness between coordinate axis	Place the table and the column in the center of the Z- and X-axes respectively. On the table top, place a 4-face square gauge with one side parallel to the direction of table movement. Bring the test indicator (fixed to the spindle head) into contact with the square. Move the spindle head in the Y-axis direction. The maximum difference in the readings of the test indicator shall be the measured value.		0.00050 per 20 inch	a : X-Y .0002 0.00028
				0.00050 per 20 inch	b : Y-Z .0002 0.00012
		Place the column in the center of the X-axis, and place a 4-face square gauge on the table top surface. Bring the test indicator (fixed to the spindle head) into contact with the square. Move the table in the Z-axis direction The maximum difference in the readings of the test indicator shall be the measured value.		0.00050 per 20 inch	c : Z-X .0001 0.00024

Unit : inch

No	Inspection item	Measurement Procedure	Illustration	Tolerance	Measured value
6	Parallelism between pallet top and column movement in the direction of the X axis	Place a straight rule on the pallet. Bring the test indicator (fixed to the spindle head) into contact with the straight rule. Move the column in the X-axis direction. The maximum difference in the readings of the test indicator shall be the measured value. Perform this measurement at each index position at intervals of 90° with the zero point of the pallet swing as a reference.		0.00050 per 16 inch	No,1 .0003 0.00024 No,2 0.00016
7	Parallelism between pallet top and table movement in the direction of the Z axis	Place a straight rule on the table. Bring the test indicator (fixed to the spindle head) into contact with the straight rule. Move the table in the Z-axis direction. The maximum difference in the readings of the test indicator shall be the measured value. Perform this measurement at each index position at intervals of 90° with the zero point of the pallet swing as a reference.		0.00050 per 16 inch	No,1 .0002 0.00016 No,2 0.00012
8	Run out of upper surface of pallet	Bring the fixed test indicator into contact with the upper surface of the block gauge placed on the top of the pallet. Rotate the table, and take the maximum readings at four corners as the measured value.		0.00050 per ϕ 16 inch	No,1 .0005 0.00020 No,2 0.00020
9	Parallelism between refe-rence T-slot and column movement in the direction of the X axis	Place a right angle plate on the pallet top. Bring the protrusion of the right angle plate into contact with the side of the reference T-slot. Bring the test indicator (fixed to the spindle head) into contact with the perpendicular plane of the right angle plate. Move the column. The maximum difference in the readings of the test indicator shall be the measured value.			No,1 ***** No,2 *****

Unit : inch

No	Inspection item	Measurement Procedure	Illustration	Tolerance	Measured value
10	Parallelism between the movement in X axis direction and the refe-rence plane of the edge locator	Bring the test indicator (fixed to the spindle head) into contact with the reference plane of the edge locator. Move the pallet and take the maximum difference in the indicator readings as the measured value.		0.00032 per full length	No,1 a .0002 0.00004 No,2 a 0.00004 No,1 b .0001 0.00004 No,2 b 0.00004
11	Spindle move-ment in the direction of the Z axis	Insert a test bar into the spindle hole. Bring the test indicator into contact with the end of the test bar. The maximum difference in the readings of the test indicator during spindle rotation shall be the measured value.		0.00008	0.00004 .00007
12	Run-out of spindle hole	Insert a test bar into the spindle hole. Bring the test indicator into contact with the end of the test bar. The maximum difference in the readings of the test indicator during spindle rotation shall be the measured value.		at nose 0.00008 at 12 inch 0.00032	.00007 0.00004 .0002 0.00020
13	Parallelism bet-ween the spindle center line and table movement in the direction of the Z axis *(3)	Place the column in the center of the X-axis. Bring the test indicator fixed on the table into contact with the test bar inserted into the spindle hole. Move the table. The maximum difference in the readings of the test indicator shall be the measured value.		0.00050 per 12 inch	a : Y-Z .0003 0.00020 b : Z-X .0004 0.00008