

Date 2/21/2019
 Installation Company BVTC
 Installed by RAFAEL Print Name RAFAEL Signature RAFAEL
 Customers Name MBARE
 Acknowledged by RAY THOMPSON Print Name RAY THOMPSON Signature RAY THOMPSON

Quality Assurance
 Manager DMG MORI Charge DMG MORI
JAN. 22. 2019 JAN. 22. 2019
PINER LU

Development Management
 Manager DSC Charge DSC
SEP. 25. 2018 SEP. 25. 2018
YONEDA MATSURU

ACCURACY TEST RESULTS ☐ PARAMETER LIST ☐
 COPY OF ACCURACY DATA ☐ PARTS LIST designated to S/N ☐
 Explanation Check Sheet on Delivery ☐ Installation Check Sheet ☐



Model CMX1100V DAVIS Order No. RS00003030
 Serial No. CMX00181167 Destination UNITED STATES
 Control F0iMF Language ENGLISH
 Inspection Shipping 2018/11/28

No.	Parts No.	Edit		RQT	Not Shipped *	
					MORI	CUST
1	E86579	A01	MAINTENANCE MANUAL	1	☐	☐
2	I48382	A05	LICENSE AGREEMENT	1	☐	☐
3	L01564	A02	MAPPS CONVERSATIONAL	1	☐	☐
4	L01831	C02	MACHINE OPERATION	1	☐	☐
5	L09589	D01	MAPPS ETHERNET/IP INSTRUCTION	1	☐	☐
6	L09686	E02	ROTARY TABLE INSTRUCTION	1	☐	☐
7	L09755	G01	CHIP CONVEYOR INSTRUCTION	1	☐	☐
8	L10472	A01	PREFACE	1	☐	☐
9	L10496	C01	DESCRIPTION	1	☐	☐
10	L10505	B02	TECHNICAL DATA	1	☐	☐
11	L13192	A02	PRECAUTIONS	1	☐	☐
12	L14221	N01	MANUAL MEASUREMENT (W	1	☐	☐
13	L14877	F07	AUTOMATIC MEASUREMENT	1	☐	☐
14	L18043	D02	MACHINE RELOCATION FORM	1	☐	☐
15	L50236	C02	PARTS LIST	1	☐	☐
16	L60561	B05	PROGRAMMING	1	☐	☐
17	L72048	D01	MAINTENANCE	1	☐	☐
18	L72071	B06	INSTALLATION	1	☐	☐
19	L72086	D01	REGULAR INSPECTION LIST	1	☐	☐
◆	OTHER					
I	I97056	D04	MORI-SERVER	1	☐	☐

[@]:The document is supplied through the MAPPS manual viewer.

[@]:Refer to the catalog for standard accessories.

<< Explanation Check Sheet on Delivery >>

Customer MBARITC SVModel CNX 1100V Serial No. CNX00181167 Explained by RAFAEL RENEZ

Note that ticking the check boxes is not allowed. Use the following marks.

O: passed x: failed /: not applicable

◆◆BEFORE POWER ON◆◆ (Checks for staff explaining on delivery)

Check the following items.

- ☐ Machine appearance and inside (dent, damage, rust, etc.)
- ☒ Accessories mounted on spindle and rotary section (e.g. tighten chuck jaws)
- ☐ Machine specifications same as order (check with machine specifications forms)
- ☐ Manuals following packing list
- ☐ Tool box and spare parts following machine specifications forms

◆◆AFTER POWER ON◆◆

Check the following items.

- ☐ Abnormality after power on
- ☐ Setting and explaining MORI-NET and test transmission
- ☐ All transit clamps removed
- ☐ Emergency stop buttons and interlocks operating normally
- ☐ Oil levels and discharge (visual check slideways for lubricating oil)
- ☐ Pressures
- ☐ Over travel for each axis operating normally
- ☐ Abnormal sound, and vibrations on each axis (spindle(s) and drive axes)
- ☐ After turning on the power, perform spindle warm-up running. (for milling spec machine, perform milling as well)

Please refer to maintenance manual for spindle speed and time.

Right after installation, perform "daily warm-up running". When not used for more than 2 weeks, perform "warm-up running after long time no use".

- ☐ Flaws on slideways, spindle, table, turret and tailstock quill
- ☐ Accuracy inspection result for installation filled in accuracy inspection evaluation form
- ☐ M, S, and T functions by manual and MDI operation
- ☐ All motors running direction and operation
(chip conveyor, hydraulic unit, pumps, mist collector, oil skimmer, fan, etc.)
- ☐ Leakage of lubricating oil, hydraulic oil and cooling oil
- ☐ Make sure that there is no leakage from pipe, tank, and cover when coolant is discharged.
(including spindle coolant, turret coolant, center through coolant, chip flush coolant etc.)
- ☐ When the pipes tightened during installation are loosened, make sure to perform tightening check and match mark with a paint marker.

- ☒ Adjusting discharge volume of drum filter washing coolant in chip conveyor, explaining to customer daily inspections include coolant discharge volume adjustment
- ☒ Fill the oil/coolant separator with coolant(M/C only)
- ☒ Liquid collectors located appropriately (inside magazine, APC, AWC, etc.)
- ☒ Explaining name plates and instructing customer on all safety procedures related to machine following Safety Operation Manual
- ☒ All checking items given by departments of DMG MORI SEIKI
- ☒ Make sure that installation check sheet items have been fully confirmed.

☐ ◆◆EXPLANATION◆◆

Explain the following items.

- ☒ To check customer experience and skill. (based on information acquired by sales staff)
- ☒ Explain that instruction manuals include safety (pink pages) and important matters about appropriate and long-term machine usage. Then instruct customer to read instruction manuals thoroughly, refer to them for help during machine operation, and contact DMG MORI SEIKI for further assistance.
(Service Center: +81-(0)120-124-280, +81-(0)077-78-0222)
- ☒ Operation panels (operation panel, option panel)
- ☒ Screens to display (position, program, offset, setting, message, system)
- ☒ Mounting/removing fixtures and chucking jaws and modifying procedures
- ☒ Mounting tools, tool offset, work coordinates (including tool presetter)
- ☒ Operation and setting procedures of standard and special options (NC options, in-machine measurement, sub spindle, tail stock, etc.)
- ☒ Programming (G, M, S, T codes, canned cycles, NC programming overview)
- ☒ Importance of G50, max. spindle speed setting (when using G96, constant surface speed control, make sure to specify G50 command in preceding block)
- ☒ Danger of operating programs by moving cursor to desired position with edit mode
- ☒ Conversational programming
- ☒ 3D interference checking function
- ☒ Procedure of dry run (spindle off mode, program check screen)
- ☒ Please confirm workpiece accuracy with customer (in case you had actually workpiece)
- ☒ For work machining, create programs properly and check cutting tool and material interference carefully.
- ☒ For the first work, perform machining carefully in single block mode until end.

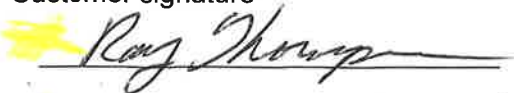
◆◆MAINTENANCE/DAILY INSPECTION PROCEDURE◆◆

- ☒ Explain the maintenance procedure following the maintenance manual.
- ☒ Hydraulic Oil/Oil filter/Chuck Grease/Spindle collet Lubricant.
- ☒ Air filter/Oil and water in compressed air.
- ☒ Chip accumulations/Slide seal/Coolant level/consistency/Coolant filter.
- ☒ Cooling fan filter/Back up battery.
- ☒ Warning for scheduled maintenance.

To "sales person and others" from "person in charge of explanation"

◆◆◆CUSTOMER'S COLUMN ◆◆◆

Customer signature



Date (month/day/year): 2-21-19

- * We inspect each checking item following DMG MORI SEIKI original manuals.
- * Specific functions may not be checked at the point of installation depending on accessories. In this case, the functions will be checked at the point of production. For the safety of accessories provided by either you or the trading company, however, please conduct the safety measurement following "Guidelines for the Comprehensive Safety Standards of Machinery" (Ministry of Health, Labor and Welfare). As regards the safety of connecting parts with our products, we comply with our safety standards.
- * Seal or signature.

<< Installation Check Sheet >>

Customer MBARRTC SVModel CHX1100V Serial No. CHX00181167 Installed by RATHEL RENEZ

Note that ticking the check boxes is not allowed. Use the following marks.

O: passed x: failed /: not applicable

KENNEDY
MACHINE WAS
ON FLOOR AT MY
ARRIVAL.

◆◆CARRY-IN (Checks for transportation company)◆◆ Transportation company

Check the following items.

- ☒ Carry-in conditions confirmed in advance and equipment such as for towing prepared
- ☒ Appropriate hoisting attachments used and machine covered for interference
- ☒ Balance of hoisted machine between front and back, and left and right
- ☒ Towing wire hooked appropriately.
- ☒ Any obstacles interfered with machine when towing
- ☒ Jack for installation located appropriately
- ☒ Shocks when unloading machine
- ☒ Machine installed at designated location
- ☒ Staff working safely (e.g. work uniform such as cuffs, hems and zipper, and protectors such as leather gloves)
- ☒ Damage of covers at transportation and carrying-in
- ☒ Machine appearance (dirt, flaws) and cover wiped out after installation
- ☒ Any bolts and screws left on track
- ☒ All accessories unloaded
- ☒ Carry-in route and around installation area tidied and cleaned after work
- ☒ Staff of transfer company greeted customer and reported their work
- ☒ Receipt procedure appropriately done

◆◆INSTALLATION◆◆

Check the following items.

- ☒ Installation following "installation standards" and "outsourcing installation standards"
- ☒ All parts mounted
- ☒ Machine jacked up to height written in "installation standards (by model)"
- ☒ Maintenance area secured
- ☒ Conveyor and coolant tank located appropriately
- ☒ Peripheral devices located appropriately
- ☒ Liquid collector (inside magazine, APC, AWC, etc.) located appropriately
- ☒ Liquid, rust and oil mixed in air, instructing customer to use air dryer if necessary
- ☒ Primary pneumatic pressure (.5 Mpa) and air leakage
- ☒ Rust prevention oil on disk brake wiped off for Turning Centers with C-axis
- ☒ Any interferences with peripheral devices including adjacent machine, ceiling crane, doors, other

◆◆BEFORE POWER ON◆◆

Check the following items.

- ☒ Machine appearance (flaws, uneven coating, peeling coating, etc.) and machine inside (dent, damage, rust, etc.)
- ☒ All transit clamps removed as well as the number of the clamps and bolts following "Instruction Manual" by model
- ☒ Bolts for mounted parts and rotary sections tightened
<e.g.> Locking assembly of servo motor (motor removed for transportation)
- ☒ Hydraulic and pneumatic piping connections
- ☒ Connectors and cable connection points including thermal relay and motor breaker in electrical cabinet
- ☒ Primary voltage (R-S 212 V, R-T 213 V, S-T 213 V)
- ☒ Primary input phase with phase rotation gage (R,S,T)
- ☐ Primary voltage (L1-L2 212V, L1-L3 212V, L2-L3 213V)
- ☒ Primary voltage (L1-N V, L2-N V, L3-N V)
- ☒ Primary voltage (L1-PE 112 V, L2-PE 122 V, L3-PE 123 V)
- ☒ Primary input phase with phase rotation gage (L1, L2, L3)
- ☒ Secondary voltage (L1-L2 V, L1-L3 V, L2-L3 V) NOTE 1)
- ☐ Voltage at Battery (3 ^{NE} 6 _{ATE} V) *Refer to the manual for the specified voltage
- ☒ Machine grounded independently of other machines
- ☒ Accessories mounted on spindle and rotary section (e.g. chuck jaws tightened)
- ☒ Machine specifications same as order (check with machine specifications forms)
- ☒ Thermal setting value changed for 50 Hz area (for DMC635Veco, CTX310)

◆◆AFTER POWER ON◆◆

Check the following items.

- ☒ Abnormality after power on
<e.g.> Alarm displayed on operation panel, abnormal sound and unusual smell detected
- ☒ Flaws on slideways, spindle, table (pallet), turret and tailstock quill
- ☒ Adjusting machine level according to Accuracy Test Results Chart delivered with machine
- ☒ Filling in accuracy inspection result for installation on accuracy inspection evaluation form and accuracy inspection data copy (attached sheet included)
- ☒ Lock nuts of jack bolts tightened
- ☒ Leakage of lubricating oil, hydraulic oil and cooling oil
- ☒ Marking on mounted piping and coupler with marker pen
- ☒ Machine surrounding environment and machine appearance cleared after installation
- ☒ Door opening/closing operation and door not opening/closing by its own for manual operation
- ☒ Load values when axis motion stopped in + direction of Z-axis for Z-axis scale specifications (NMV3000, NMV5000): Z=0; Z=-255; Z=-510 and 70% or less in vicinity
- ☒ For Rack magazine specification, Check the pot storage position of #1 ,maximum #,top-end ,middle, lower end of each rack-row.

To "delivery person and sales person" from "person in charge of installation"

◆◆◆CUSTOMER'S COLUMN ◆◆◆

Customer signature



Date (month/day/year): 2-21-19

- * We inspect each checking item following DMG MORI SEIKI original manuals.
- * Specific functions may not be checked at the point of installation depending on accessories. In this case, the functions will be checked at the point of production. For the safety of accessories provided by either you or the trading company, however, please conduct the safety measurement following "Guidelines for the Comprehensive Safety Standards of Machinery" (Ministry of Health, Labor and Welfare). As regards the safety of connecting parts with our products, we comply with our safety standards.
- * Seal or signature.

NOTE

- 1) For a 400 V spec. machine with Siemens or Heidenhain control.

<< Accuracy Test Data >>

Customer MORISETest Date (Y 2019 M 02 D 21)Model CMX1100VSerial No. CMX00181167Staff RAFAEL PEREZ

Please email a soft copy of this "Accuracy Test Data" to the Quality HQ of DMG MORI SEIKI (E-mail: Accuracy(据付精度送付)).
Keep the original at each technical center.

Vertical MC

⑨NVX, NV, CMX, i30V, *DMC635VECO

Appendix

With / Without

	Contents	Measuring Points	Measurements (mm)
A	Checking of angular deviations of the Y-axis motion (NVX,NV)	c) In the vertical ZX plane	N/A
B	Checking of straightness of the X-axis motion on the table surface (*CMX only)	a) In the vertical ZX plane	-0.006
		c) In the vertical YZ plane	+0.002
C	Checking of squareness between Z-axis motion and the X-axis motion	(In the vertical Z-X plane)	-0.006
D	Checking of squareness between Z-axis motion and the Y-axis motion	(In the vertical Z-Y plane)	+0.002
E	Checking of squareness between Y-axis motion and the X-axis motion	(In the vertical Y-X plane)	-0.007
F	Checking of run-out of internal taper of the spindle	a) at the spindle nose	+0.001
		b) at a distance of 300 mm from the spindle nose	+0.006
G	Checking of parallelism between the spindle axis and the Z-axis motion	a) in the vertical YZ plane	+0.002
		b) in the vertical ZX plane	+0.008
H	Checking of squareness between the spindle axis and the X-axis motion		-0.002
I	Checking of squareness between the spindle axis and the Y-axis motion		+0.002
J	Checking of parallelism between the table surface and the X-axis motion		+0.004
K	Checking of parallelism between the table surface and the Y-axis motion		+0.003
L	Checking of parallelism between the longitudinal median or reference T-slot of the table in the 0° position and the X-axis motion		N/A

Horizontal MC

⑩NHX, NH, i50(Regarding i50, please measure only "H" and "I")

	Contents	Measuring Points	Measurements (mm)
A	Check straightness of the X-axis motion	a) in the vertical XY plane (EYX) b) in the horizontal ZX plane (EZX)	
B	Check straightness of the Z-axis motion	a) in the vertical YZ plane (EYZ) b) in the horizontal ZX plane (EXZ)	
C	Check straightness of the Y-axis motion	a) in the vertical XY plane (EXY) b) in the horizontal YZ plane (EZY)	
D	Check angular deviations of the Z-axis motion	a) in the vertical YZ plane parallel to the movement (pitch, EAZ) c) in the vertical XY plane perpendicular to the movement (roll, ECZ)	
E	Check squareness between the Y-axis motion and the X-axis motion	(In the vertical Y-X plane)	
F	Check squareness between the Y-axis motion and the Z-axis motion	(In the vertical Y-Z plane)	
G	Check squareness between the Z-axis motion and the X-axis motion	(In the vertical Z-X plane)	
H	Check run-out of internal taper of the spindle	a) at the spindle nose b) at a distance of 300 mm from the spindle nose	
I	Check parallelism between the spindle axis and the Z-axis motion	a) in the vertical YZ plane b) in the vertical ZX plane	
J	Check parallelism between the pallet surface and the X-axis motion at four places indexed every 90°		Pallet No.1
K	Check parallelism between the pallet surface and the Z-axis motion at four places indexed every 90°		Pallet No.2
L	Check squareness between the pallet surface and the Y-axis motion at four places indexed every 90° and run-out test of the pallet surface	* When installing at the site, measure the run-out accuracy of the pallet surface.	
M	Parallelism test of the following: a) or b), with the X-axis movement at the zero position of the pallet	a) The reference T-slot in the longitudinal direction	
N		b) Edge locator	

*If there are unmeasurable items or additional items requested by the customer, you need to fill in "Accuracy Test Data <appendix>"

Accuracy Test Results

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Protocol Number:

AC-CMX1100V

Latest Edition:

E03-2

Approved / Date

S.Hiro / 2018/2/20

Created by:

T.Kameyama

Originally Created:

2018/2/20

Machine Model:

CMX 1100 V

Serial Number

CMX00181167

Project Number:

G11

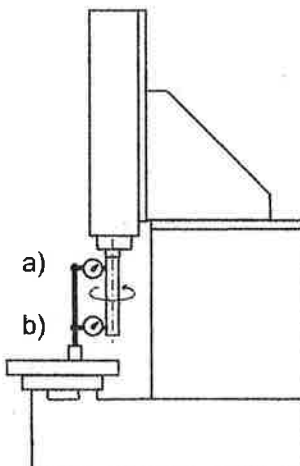
No.11 Checking of run-out of internal taper of the spindle:

- a) at the spindle nose;
- b) at a distance of 300 mm from the spindle nose.

Measurement Procedure/Diagram

Fit a test bar into the spindle and set the probes of dial test indicator against the spindle nose and a point 300 mm from the spindle nose. Read the dial test indicator while rotating the spindle and take the maximum difference in the readings as the test result. The spindle should be rotated at least 2 revolutions for this test.

The measurements shall be repeated at least 4 times, the bar being rotated through 90 degrees in relation to the spindle. The average of 4 readings shall be recorded.



a)Coordinate values at test

X	-550
Y	-280
Z	-250

b)Coordinate values at test

X	-550
Y	-280
Z	0

ISO 10791-2(2002)

Measuring Instruments		ISO Tolerance	DMG MORI Assurance	Measurements
Test Bar Dial Test Indicator	a) at the spindle nose	0.010	0.003	0.001
				0.001
	b) at a distance of 300 mm from the spindle nose	0.020	0.009	0.003
				0.006

Unit: mm

Accuracy Test Results

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Protocol Number:
AC-CMX1100V

Latest Edition:
E03-2

Approved / Date
S.Hiro / 2018/2/20

Created by:
T.Kameyama

Originally Created:
2018/2/20

Machine Model:
CMX 1100 V

Serial Number
CMX00181167

Project Number:

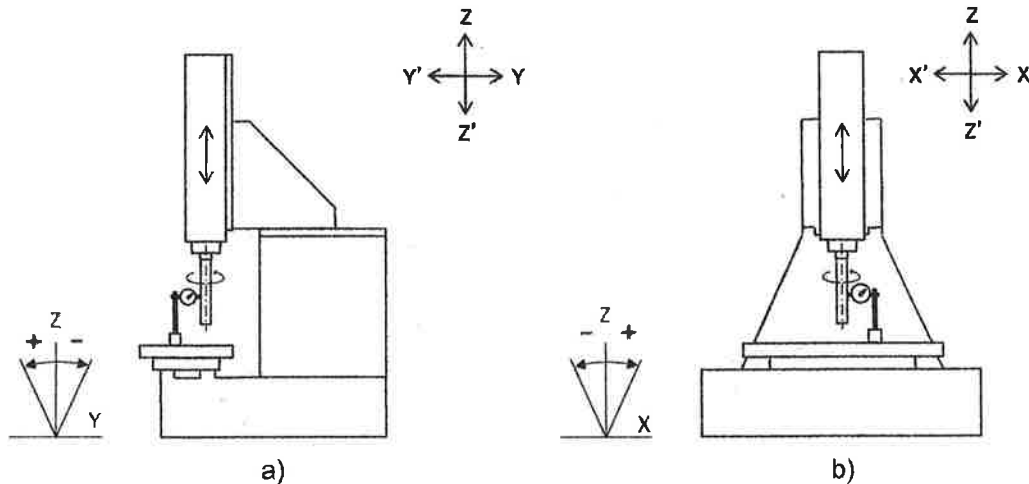
G12

No.12 Checking of parallelism between the spindle axis and the Z-axis motion:

- in the vertical YZ plane;
- in the vertical ZX plane.

Measurement Procedure/Diagram

Locate the X-axis at the center of its travel and set the probe of a dial test indicator mounted on the table against a test bar fitted into the spindle. Move the Z-axis and read the dial test indicator. Take the maximum difference in the readings as the test result.



Coordinate values at test

X	-550	
Y	-280	
Z	0	-250

ISO 10791-2(2002)

Measuring Instruments		ISO Tolerance	DMG MORI Assurance	Measurements
Test Bar Dial Test Indicator	a) in the vertical YZ plane	0.015 / 300	±0.008 / 250	+0.005
				0.008
	b) in the vertical ZX plane	0.015 / 300	±0.008 / 250	+0.002
				0.002

Unit: mm

Accuracy Test Results

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Protocol Number: AC-CMX1100V	Latest Edition: E03-2	Approved / Date S.Hiro / 2018/2/20	Created by: T.Kameyama	Originally Created: 2018/2/20
Machine Model: CMX 1100 V		Serial Number CMX00181167	Project Number: _____	

No.13 Checking of squareness between the spindle axis and the X-axis motion.

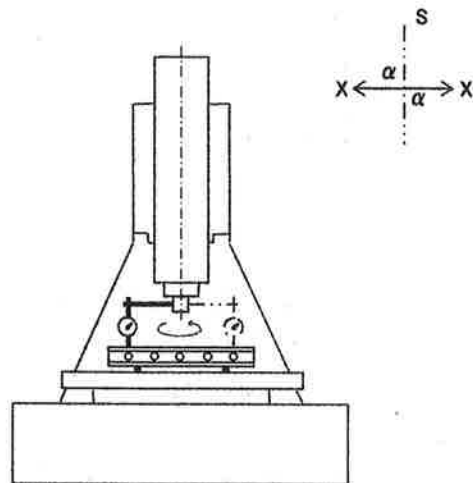
G13

Measurement Procedure/Diagram

Place the straightedge on the table in such a way that it is parallel to the X-axis.

Fix a dial test indicator to the spindle. Bring the probe into contact with the straightedge and read the indicator. Rotate the spindle 180 degrees to take another reading. Take the maximum difference in the readings as the test result.

The value of angle α shall be noted as negative if it is less than 90° and positive if it is greater than 90°.



Coordinate values at test

X	-550
Y	-280
Z	-350

ISO 10791-2(2002)

Measuring Instruments	ISO Tolerance	DMG MORI Assurance	Measurements
Straightedge Dial Test Indicator Swing Bar	0.020 / 300	±0.010 / 300	-0.001
			0.002

Unit: mm

Accuracy Test Results

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Protocol Number:
AC-CMX1100V

Latest Edition:
E03-2

Approved / Date
S.Hiro / 2018/2/20

Created by:
T.Kameyama

Originally Created:
2018/2/20

Machine Model:
CMX 1100 V

Serial Number
CMX00181167

Project Number:

No.14 Checking of squareness between the spindle axis and the Y-axis motion.

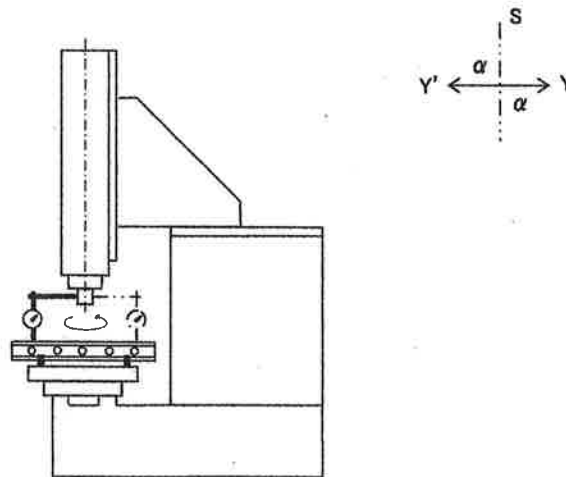
G14

Measurement Procedure/Diagram

Place the straightedge on the table in such a way that it is parallel to the Y-axis.

Fix a dial test indicator to the spindle. Bring the probe into contact with the straightedge and read the indicator. Rotate the spindle 180 degrees to take another reading. Take the maximum difference in the readings as the test result.

The value of angle α shall be noted as negative if it is less than 90° and positive if it is greater than 90° .



Coordinate values at test

X	-550
Y	-280
Z	-350

ISO 10791-2(2002)

Measuring Instruments	ISO Tolerance	DMG MORI Assurance	Measurements
Straightedge	0.020 / 300	$\pm 0.010 / 300$	+0.008
Dial Test Indicator			0.008
Swing Bar			

Unit: mm

Accuracy Test Results

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Protocol Number:
AC-CMX1100V

Latest Edition:
E03-2

Approved / Date
S.Hiro / 2018/2/20

Created by:
T.Kameyama

Originally Created:
2018/2/20

Machine Model:
CMX 1100 V

Serial Number
CMX00181167

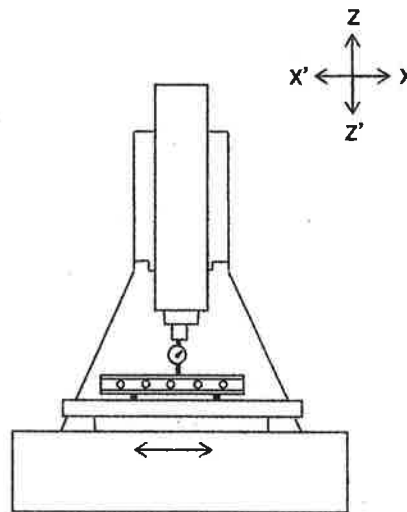
Project Number:

No.16 Checking of parallelism between the table surface and the X-axis motion.

G16

Measurement Procedure/Diagram

Set a straightedge parallel to the X-axis in the center of the table. Bring the probe of a dial test indicator into contact with this straightedge. Read the dial test indicator while moving the X-axis and take the maximum difference in the readings as the test result.



Coordinate values at test

X	0	-1100
Y	-280	
Z	-350	

ISO 10791-2(2002)

Measuring Instruments	ISO Tolerance	DMG MORI Assurance	Measurements
Straightedge Dial Test Indicator Gauge Block	0.025	0.008 / 1100	0.001
			0.004

Unit: mm

Accuracy Test Results

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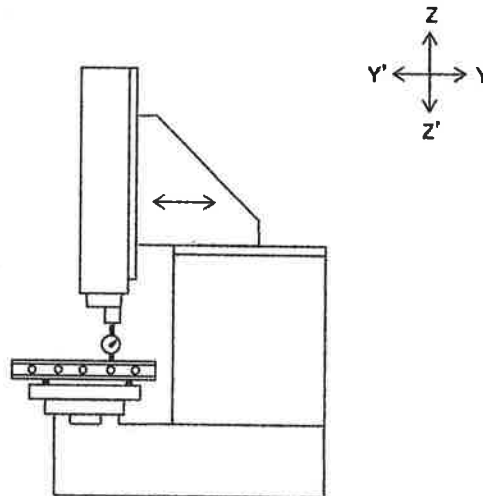
Protocol Number: AC-CMX1100V	Latest Edition: E03-2	Approved / Date S.Hiro / 2018/2/20	Created by: T.Kameyama	Originally Created: 2018/2/20
Machine Model: CMX 1100 V			Serial Number: CMX00181167	Project Number: _____

No.17 Checking of parallelism between the table surface and the Y-axis motion.

G17

Measurement Procedure/Diagram

Set a straightedge parallel to the Y-axis in the center of the table. Bring the probe of a dial test indicator mounted on the spindle head into contact with this straightedge. Read the dial test indicator while moving the Y-axis and take the maximum difference in the readings as the test result.



Coordinate values at test

X	-550	
Y	0	-560
Z	-350	

ISO 10791-2(2002)

Measuring Instruments	ISO Tolerance	DMG MORI Assurance	Measurements
Straightedge Dial Test Indicator Gauge Block	0.025	0.008 / 560	0.003
			0.003

Unit: mm

Accuracy Test Results

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Protocol Number:
AC-CMX1100V

Latest Edition:
E03-2

Approved / Date
S.Hiro / 2018/2/20

Created by:
T.Kameyama

Originally Created:
2018/2/20

Machine Model:
CMX 1100 V

Serial Number
CMX00181167

Project Number:

G7

No.7 Checking of squareness between the Z-axis motion and the X-axis motion.

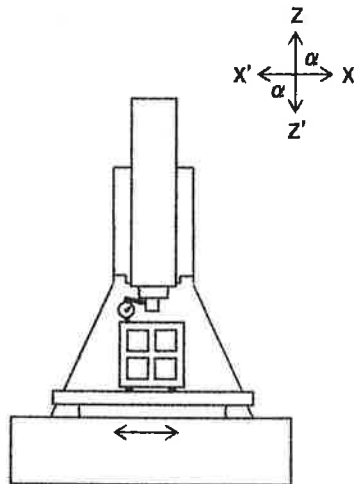
Measurement Procedure/Diagram

Mount the dial test indicator on the spindle head.

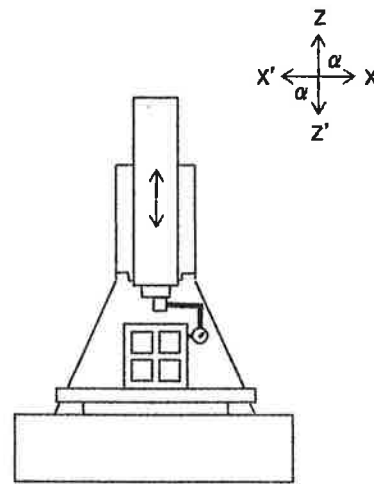
Step 1) Set the square master parallel to the X-axis.

Step 2) Check the Z-axis by means of the square master.

The value of angle α shall be noted as negative if it is less than 90° and positive if it is greater than 90° .



Step 1)



Step 2)

Coordinate values at test

X	-300	-800
Y	-130	
Z	-5	

Coordinate values at test

X	-550	
Y	-130	
Z	-5	-505

ISO 10791-2(2002)

Measuring Instruments	ISO Tolerance	DMG MORI Assurance	Measurements
Square Master Dial Test Indicator	0.020 / 500	$\pm 0.010 / 500$	-0.002
			-0.006

Unit: mm

Accuracy Test Results

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Protocol Number:
AC-CMX1100V

Latest Edition:
E03-2

Approved / Date
S.Hiro / 2018/2/20

Created by:
T.Kameyama

Originally Created:
2018/2/20

Machine Model:
CMX 1100 V

Serial Number
CMX00181167

Project Number:

No.8 Checking of squareness between the Z-axis motion and the Y-axis motion.

G8

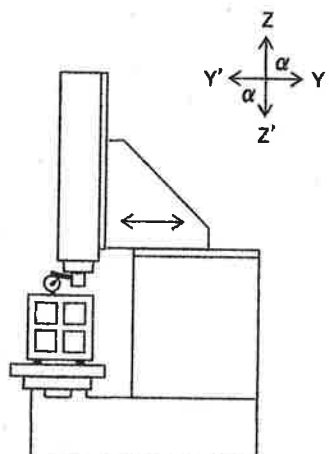
Measurement Procedure/Diagram

Mount the dial test indicator on the spindle head.

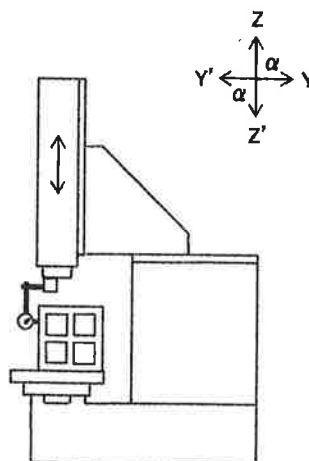
Step 1) Set the square master parallel to the Y-axis.

Step 2) Check the Z-axis by means of the square master.

The value of angle α shall be noted as negative if it is less than 90° and positive if it is greater than 90° .



Step 1)



Step 2)

Coordinate values at test

X	-550	
Y	-30	-530
Z	-5	

Coordinate values at test

X	-550	
Y	-280	
Z	-5	-505

ISO 10791-2(2002)

Measuring Instruments	ISO Tolerance	DMG MORI Assurance	Measurements
Square Master Dial Test Indicator	0.020 / 500	$\pm 0.010 / 500$	+0.004
			0.002

Unit: mm

Accuracy Test Results

Page 13 / 27

Protocol Number:
AC-CMX1100V

Latest Edition:
E03-2

Approved / Date
S.Hiro / 2018/2/20

Created by:
T.Kameyama

Originally Created:
2018/2/20

Machine Model:
CMX 1100 V

Serial Number
CMX00181167

Project Number:

No.9 Checking of squareness between the Y-axis motion and the X-axis motion.

G9

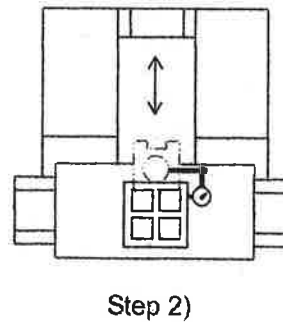
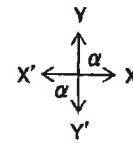
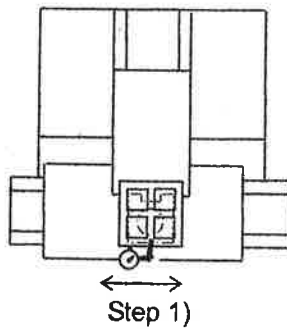
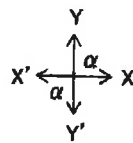
Measurement Procedure/Diagram

Mount the dial test indicator on the spindle head.

Step 1) Set the square master parallel to the X-axis.

Step 2) Check the Y-axis by means of the square master.

The value of angle α shall be noted as negative if it is less than 90° and positive if it is greater than 90° .



Coordinate values at test

X	-330	-800
Y	-280	
Z	-350	

Coordinate values at test

X	-550	
Y	-30	-530
Z	-350	

ISO 10791-2(2002)

Measuring Instruments	ISO Tolerance	DMG MORI Assurance	Measurements
Square Master Dial Test Indicator	0.020 / 500	±0.010 / 500	-0.002
			-0.007

Unit: mm