



Instrument Engineering Change Notice

NO. Glas g2-2201

Sakura Finetek Japan Co. Ltd.

PRODUCT NAME : Tissue-Tek Glas g2 DATE : January 14, 2022
 PRODUCT CODES : All models ORIGINATOR : Y. Yazawa
 IECN TYPE : DOCUMENT CHANGE REFERENCE NUMBER : 20043, 20140, 20149
 SERIAL NUMBERS AFFECTED : N/A ATTACHMENTS : Glas g2 SM Change List (rev03);
 FIELD RETROFIT REQUIRED : NO AI0-IF-001(ENG)-03_GI as g2 Service Manual;
 AI0-IF-012(ENG)-01_GI as g2 Service Manual_AMENDMENT

Title: Release of Service Manual with new document code and Amendment of Service Manual

[REASON AND DESCRIPTION FOR CHANGE]

Because the current English version of the Glas g2 Service Manual has the same document code as the Japanese version (AI0-IF-001-03), a different document code was assigned to the English version [AI0-IF-001(ENG)-03] and is released officially this time.

In addition, the amendment [AI0-IF-012(ENG)-00] for the service manual was issued regarding the change to the new gas spring (00001-2814, IECN #Glas g2-2102) as it needs special attention to its installation.

* Sections/clauses amended:

- 6-5-19-3 Replacement of gas damper - Added precaution for installation of the new gas spring
- Chapter 10 Exploded Views and Parts List - Updated the list of parts for Loading Door, Front Cover and Unloading Area

* This amendment is only effective until the next version of the service manual is released.

[PART CHANGE] (IVDP=Inventory Disposal, ICHB=Inter Changeable)

Description	Old	QTY	IVDP	New	QTY	ICHB

[REMARKS]

N/A

[DISTRIBUTION]

- SFA
- SFJ
- SFE
- SCN

[APPROVAL]

Name : T. Sugawara

Signature :

Tissue-Tek® Glas® g2 Service Manual - List of Changes

Revision Date Doc. Code	Page	Chapter / Section # affected	Item	Description/Reason of Change
August 2016 A10-IF-001-03		Cover Page	Document code	A10-IF-001-02 --> A10-IF-001-03
		Table of Contents		4-2-7, 4-2-8, 4-2-9, 6-5-21, 9-4, 9-5, 7-1-11, 7-1-12, 7-1-13, 11-2-6 and 7-4-2-8 added; Pages renumbered where necessary
	3-19	3-5-1-2-4	Detection and Retrieval of Slide	Description added on the changed routing of the open gripper sensor cable
	4-2	4-2	Figure 4-2 Electrical System Layout	BCR relay board added
	4-4	4-2-2	Figure 4-4 Block diagram of Control PC Board	Barcode reader added to I/O
	4-5	4-2-2	Figure 4-5 Interior layout of Control PC Board	Barcode reader tripper signal output added
	4-10		(6) BCR trigger signal output part	Newly added
	4-15		Figure 4-8 Photointerrupter (open gripper sensor)	Description added on the changed routing of the open gripper sensor cable
	4-20	4-2-6	Figure 4-16 Interface Part1	Changed
	4-20	4-2-7	BCR Relay Board	Newly added
	4-21	4-2-8	Barcode Reader Part (option)	Newly added
	4-21	4-2-9	Interface to Barcode Reader	Newly added
	6-1	6-2-2	Measuring Devices	Sonic tension meter U-508 added; Tension meter DTMB described at a substitute
	6-1	6-2-3	Small parts	Loctite, Sealub and lubricant added
	6-3 ~ 6-4	6-5	A list of repairs and reference chapter numbers	6-5-6-5 Replacement of Mounting Medium Level Sensor added
				6-5-12-4 Routing of CG Vacuum Tubes added
				6-5-15-6 Replacement of BCR Relay Board added
				6-5-15-7 Precaution for Cable Routing added
				6-5-16-8 Vertical Position Adjustment of Slide Rack Mechanism added
				Section numbers of two subsequent sections in 6-5-16 updated
	6-6	6-5-1-1	Disassembly, Assembly and Adjustment of Loading container X-axis	Lubricant added to Applicable Tools
	6-8			Lubrication added to Step 4 Wire tensioner in Assembly
	6-8			Standard values for tension adjustment in Step 5 Wires in Assembly changed to "See Section 6-5-21"
	6-10	6-5-1-2	Disassembly, Assembly and Adjustment of Loading container Y-axis	Lubricant added to Applicable Tools
	6-11			Lubrication added to Parts Layout of Loading Container Y-axis (2)
	6-12			Lubrication added to Step 2 Wire tensioner in Assembly
				Standard values for tension adjustment in Step 5 Wires in Assembly changed to "See Section 6-5-21"
	6-17	6-5-2-2	Adjustment of Wire Tension	Standard values for tension adjustment in Adjustment changed to "See Section 6-5-21"
	6-20 ~ 6-21	6-5-3-1	Removal and Installation of SG Arm and Gripper	Parts Layout of SG Arm divided into 2 illustrations, (1) and (2)
	6-22			A note on the new open gripper sensor cable and replacement kit added to Assembly
	6-23			Descriptions in Step 1 SG arm modified
6-24 ~ 6-27	Descriptions in Step 2 SG gripper modified			
	Step 3 retitled and descriptions modified entirely			
6-30	6-5-3-2	Removal and Installation of SG Arm Unit (Base)	Description on the routing of SG arm rotation position sensor units added to Step (B) SG arm rotation base	
6-31			Standard values for tension adjustment in Step (C) Wires changed to "See Section 6-5-21"	
6-32 ~ 6-35			Step (E) Routing Procedure added	
6-38	6-5-4-1	Removal and Installation of Basket Arm Unit	Standard values for tension adjustment in Step 4. Wires changed to "See Section 6-5-21"	
6-42	6-5-5-2	Removal and Installation of Carousel Drive Unit	Standard values for tension adjustment in Assembly changed to "See Section 6-5-21"	
6-48	6-5-6-3	Adjustment of Wire Tension	Standard values for tension adjustment in Adjustment Values changed to "See Section 6-5-21"	
6-50 ~ 6-58	6-5-6-5	Replacement of Mounting Medium Level Sensor	Newly added	

Tissue-Tek® Glas® g2 Service Manual - List of Changes

Revision Date Doc. Code	Page	Chapter / Section # affected	Item	Description/Reason of Change
	6-64	6-5-8-2	Removal and Installation of Slide Conveyer Unit	Unnecessary Step "5 Sensor" deleted from Assembly; Subsequent steps renumbered Standard values for tension adjustment in Step 5 Wires changed to "See Section 6-5-21"
	6-67	6-5-9-2	Adjustment of Timing Belt Tension	Standard values for tension adjustment in Adjustment changed to "See Section 6-5-21"
	6-71~ 6-72	6-5-10-1	Removal and Installation of Coverglass Arm Unit	Installation of the Z CG arm upper end position sensor cable added
	6-75	6-5-10-3	Adjustment of Wire and Belt Tension	Standard values for tension adjustment in Adjustment changed to "See Section 6-5-21"
	6-84	6-5-12-4	Routing of CG Vacuum Tube	Newly added
	6-93	6-5-15	Control Box	BCR relay board added to the photo of Control Box
	6-95	6-5-15-6	Replacement of Barcode Reader Relay Board	Newly added
	6-96	6-5-15-7	Precaution for Cable Routing	Newly added
	6-106 ~ 6-108	6-5-16-8	Vertical Position Adjustment of Slide Rack Mechanism	Newly added
	6-130	6-5-21	Tension Adjustment	Newly added
	7-3	7	Figure 7-2 Service Mode Structure (1-4)	List of Service Mode Menu (Japanese Mode): Options #11, #12 and #13 added to 1. Setup; Expressions of options #1, #2 and #3 corrected in 2. Measurement under 2. Adjustment; Option #8 added to 2. Various Motions under 4. Motion Check
	7-5	7	Figure 7-2 Service Mode Structure (1-4)	List of Service Mode Menu (English Mode): Options #11, #12 and #13 added to 1. Setup; Expressions of options #1, #2 and #3 corrected in 2. Measurement under 2. Adjustment; Option #8 added to 2. Various Motions under 4. Motion Check
	7-17	7-1-11	Mounting medium level detection	Newly added
	7-18	7-1-12	Dispensing volume selection	Newly added
	7-19	7-1-13	Barcode Reader	Newly added
	7-20	7-1-14	Language	Section number updated
	7-38	7-2-3	Adjust basket & slide	Description located above Figure 44 modified; Referential figure number in description under Figure 44 changed to Fig.45 from
	7-48			Description under Figure 61 modified
	7-49 ~ 7-51			Figure 7-62 modified (a gap of 0.3mm added); Detailed adjustment procedure added under Figure 7-62
	7-140 ~ 7-141	7-4-2-8	Adjust reader	Newly added
	8-32	8-1-32		Error 192 added
	9-2	9-4	Barcode Reader Option Kit	Newly added
	9-2	9-5	Pump Bottle Unit, for priming use	Newly added
		10	Exploded Views and Parts List	Corrections, deletions and updates added to the illustrations and parts list for each section (Engineering changes of up to ECN #Glas g2-1606 Rev.1 included)
	11-1	11-1	Wiring Diagram	Wiring for optional barcode reader added; Change in wiring for line filter added
	11-2	11-2-1	Control PC Board	CN26 for BCR relay board added
	11-9	11-2-6	BCR Relay Board	Newly added
April 2021 A10-IF- 001(ENG)		Cover Page	Document code	Assigned unique document code A10-IF-001(ENG)-03 to English version of service manual; Changed document code to new one on each page footer of service manual

Service Manual

AMENDMENT

Tissue-Tek[®] Glas[™] g2 Coverslipper

6500 Glas g2-A1 (115VAC)

6501 Glas g2-J0 (100VAC)

6502 Glas g2-E2 (230VAC)

6499 Glas g2-JC2 (230VAC)

This amendment is based on the following document.

- Glas g2 Service Manual: AI0-IF-001(ENG)-03

All the information contained in this amendment is only valid for the abovementioned document. Refer to the amendment for the work described in each relevant clauses and chapter in the abovementioned document.

The contents of the amendment are to be reflected in the next version of the Glas g2 service manual (AI0-IF-001(ENG)-04). Therefore, do NOT use the amendment after release of the next version of the service manual.

Document Code	AI0-IF-012(ENG)-01
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History of Revision

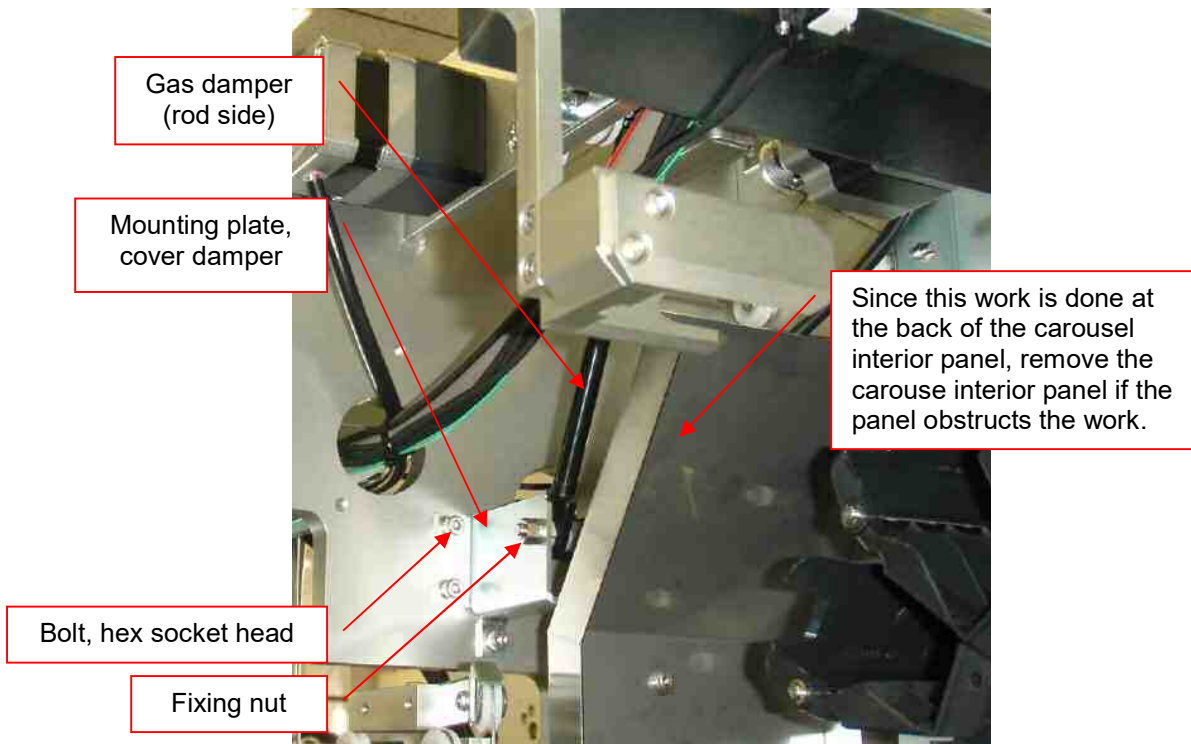
Ver.	Revision Date	Chapter / Section affected	Description	Affected Document
00	2021/01/20		Ver.00	AI0-IF-001-03
		6-5-19-3	Replacement of gas damper * Added precaution for installation of new part; 00001-2814 gas spring (Ref. IECN #Glas g2-2102 Part number change)	
		Chap.10	(Page 10-78) Loading Door, Front Cover and Unloading Area (2/3 – Front Cover) * Changed part number, description and model of #58	
01	2021/04/xx		Updated document code of English version of service manual; Deleted unnecessary description from Amendment	AI0-IF-001(ENG)-03

6-5-19-3. Replacement of Gas Damper

[Applicable tools, etc.] Spanners (nominal sizes: 8, 10)

<Disassembly>

1. Remove both the left and right front interior panels. (Refer to 6-5-13-1 and 6-5-13-2.)
2. Remove the carousel interior panel if necessary. (Refer to 6-5-13-4.)
3. Remove the cover frame. (Refer to 6-5-19-1.)
4. Remove the three hex socket head bolts affixing the cover damper mounting plate and take out the cover damper mounting plate together with the gas damper.
5. Remove the fixing nut, pull out the damper installation bolt, and remove the gas damper.



<Assembly>

1. Install the parts by following the disassembly procedure in reverse.
 - Be sure to assemble the gas damper with the tube side facing up.
 - When operating the gas damper, be sure to erect the damper with the tube side facing up.
 - The gas damper should display resistance when extending as well as contracting.
- Observe precaution described on the next page when replacing the gas damper with the new part, Gas Spring TG221-70-300 (380)-TK (18-8) (part code 00001-2814).

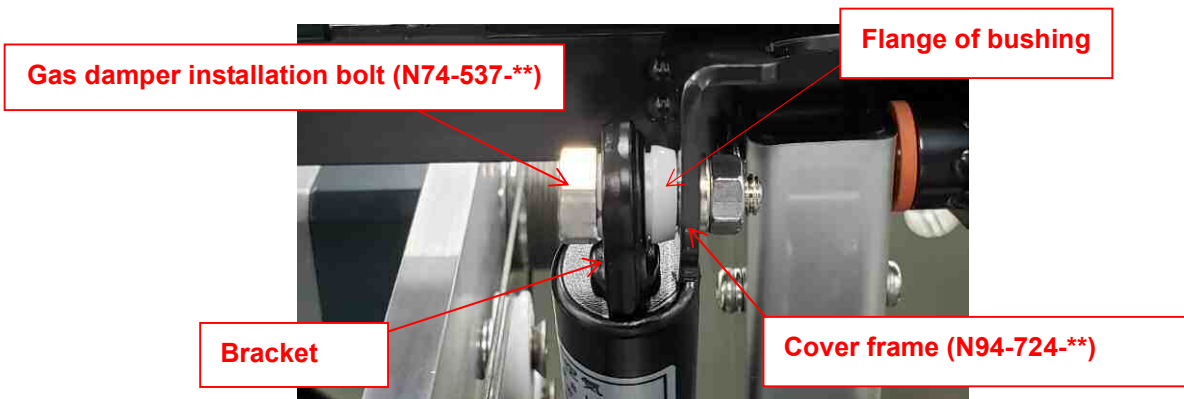
Precaution for Installation of Gas Spring TG221-70-300 (380)-TK (18-8) (Part code 00001-2814)

Due to production discontinuation, the gas damper Y1035 (D9280088) was changed to the gas spring TGS221-70-300(380)-TK (18-8) (00001-2814). (IECN #Glas g2-2102 Part number change).

However, the gas damper and gas spring have differently-shaped mounting brackets. If the gas spring is installed in a wrong direction at replacement, a rod of the gas spring gets contact with the damper mounting plate (N94-732-**) during the opening/closing of the cover. This is just a minor contact problem and does not affect opening/closing the cover, yet it may cause the surface to be scratched or paint powders to be produced. To prevent such things, install the gas spring in a proper direction as shown below.

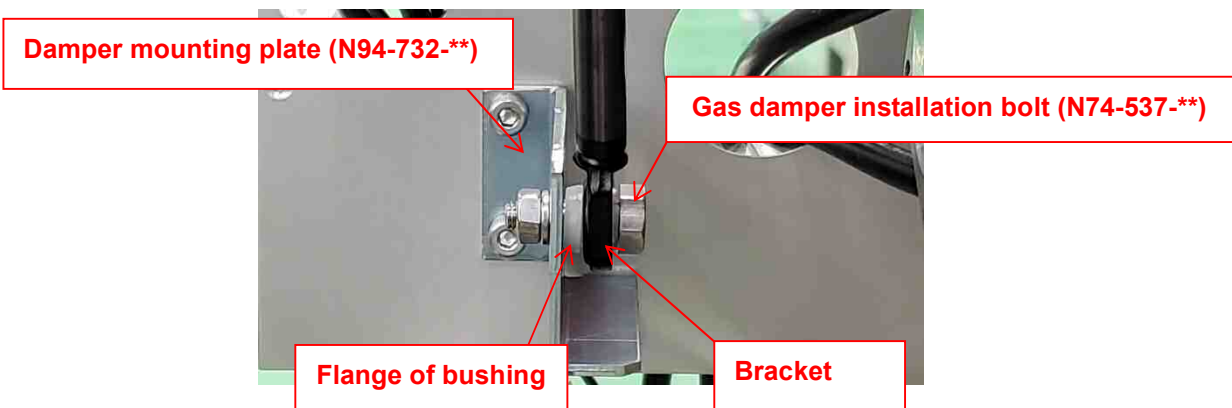
■ Cylinder Side

Secure the gas spring with the flange of the bushing faced toward the cover frame side.



■ Rod Side

Secure the gas spring with the flange of the bushing faced toward the damper mounting plate side.



Loading Door, Front Cover and Unloading Area (2/3 – Front Cover)

No.	Part Code	Description	Model / Material	Q'ty	Class	Serial Number				Change	ECN No.	Remarks
						A1 6500	E2 6502	J0 6501	JC2 6499			
1	N74-537-00	Gas Damper Installation Bolt	SUS	2								
2	N94-708-00	Sensor Mounting Plate, Loading Door	SUS	1	N/A	0051~ 0089	0051~ 0081	0051~ 0078	---	NO	0911	
	N94-715-02	Sensor Mounting Plate, Loading Door	SUS	1		0090~	0082~	0079~	0051~			*2
3	N94-709-00	Sensor Plate, Loading Door	SUS	1	N/A	0051~ 0089	0051~ 0081	0051~ 0078	---	NO	0911	
	N94-716-03	Sensor Plate, Loading Door	SUS	1		0090~	0082~	0079~	0051~			*2
4	N94-720-00	Hinge Base (1), Cover	Al	2								
5	N94-721-00	Hinge Base (2), Cover	SUS	2								
6	N94-722-00	Hinge Pin, Cover	SUS	2								
7	N94-723-00	Cover	PMMA	1		0051~ 0089	0051~ 0081	0051~ 0078	---	NO	1003	
	N94-738-00	Cover	PMMA	1		0090~	0082~	0079~	0051~			
8	N94-724-05	Cover Frame Assembly	Fe	1								
9	N94-728-02	Underside Frame, Cover	Fe	1		0051~ 0075	0051~ 0076	0051~ 0069	---	NO	1002	
	N94-737-01	Underside Frame, Cover	Fe	1		0076~	0077~	0070~	0051~			
10	N94-729-00	Side Frame Cover	Al	1								
11	N94-730-01	Cover Handle	SUS	1								
12	N94-731-01	Cover Sensor Plate Receiver	SUS	1								
13	N94-732-01	Damper Mounting Plate, Cover	Fe	1								
14	N94-733-00	Rubber Gasket	FPM	2								
15	F52-683-00	Cover Sensor Cable	E:Glas-73	1	C							
16	N94-739-00	Case Protection Plate		1								
17	N94-735-00	Cover Side Frame, Right	Al	1								
18												
19	N94-717-00	Plate Nut (2)	Fe	1								
51	A3-60-1178	Photo-interrupter	KI3052-AA02LF	1	C							
52	A4070683	Spacer	BSF-325E	2	N/A	0051~ 0089	0051~ 0081	0051~ 0078	---	NO	0911	
	A4-07-0684	Spacer	BSF-330E	2		0090~	0082~	0079~	0051~			*2
53	A4-07-0702	Spacer	C-415	2								
54	B0-03-0083	Bearing	0710F	2								
55	D9-03-0702	Rubber Foot	C-30-RK-1510-UL	2	C							
56	D9-04-0071	Flat Hinge	B-1100-1	1								
57	D9-28-0058	Tension Spring	2001	1								
58	00001-2814	Gas Spring	TGS221-70-300 (380)-TK (18-8)	1	C							
101	B6-12-2009	Bolt, Hex Socket Head	M5 x 20, SUS	4								
102	B6-12-2052	Bolt, Hex Socket Head / Sems A	M4 x 8, SUS	3								
103	B6-13-2020	Screw, Cross-recessed Pan Head	M3 x 12, SUS	2								
104	B6-25-2001	Screw, Cross-recessed Truss Head	M4 x 8, SUS	3								
105	B6-28-2000	Screw, Cross-recessed Pan Head / Sems A	M4 x 8, for sheet metal, SUS	14								
106	B6-28-2002	Screw, Cross-recessed Pan Head / Sems A	M3 x 6, for sheet metal, SUS	9								
107	B6-28-2009	Screw, Cross-recessed Pan Head / Sems A	M4 x 15, SUS	1								
108	B6-28-2010	Screw, Cross-recessed Pan Head / Sems A	M4 x 20, SUS	2								
109		-----										
110	B6-29-2000	Screw, Cross-recessed Pan Head / Sems B	M3 x 6, for sheet metal, SUS	2								