



WORK INSTRUCTION

Process Name/Title:

TAPING ASSEMBLY PROCESS

Effectivity Date:

September 29, 2023

Model code/Part number:

TP1 / 7L0089-7024A ¹

Customer:

TRQSS

Car Model:

SUBARU-ASCENT

Validity Date:

n/a

Purpose:

☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO¹

Document No.:

WI-ENG-PDE-725B

Revision No.:

1

Page No.:

1 of 10

PARTS:		1. Assy parts 2. Black Corrugated tube (no slit) Ø5 L=87±3mm		3. Black tape 4. Gray tape 5. Urethane foam		JIG:	1. Continuity checker jig 2. Terminal cover jig		
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION ¹				TOOLS/PPE	QUALITY POINTERS		
1	P2	<div><div>Black Corrugated tube Ø5, L=87±3mm (no slit)</div><div>TABLE LAY-OUT</div><div>Gray Urethane foam t=4; 75mm X 30mm/ Foam holder</div><div>Tape holder/ Black tape</div><div>Terminal cover jig</div><div>Tape holder/ Gray tape</div></div>				<div>Safety Instruction Be sure to wear prescribed personal protective equipment during operation (gloves, finger cots, etc.)</div> <div>Housekeeping 1. Maintain and always practice 5's. 2. Personal things on the workplace is prohibited. Keep it in your locker.</div> <div>Alert level For any trouble, inform the Assembly Assistant Supervisor or Line Leader for immediate corrective action.</div>	1. No deformed terminal 2. No wrong usage of parts		
Revision History						Prepared by	Reviewed by	Approved by	Noted by
09/29/23	1	Change from pre-launch to mass pro and inclusion of table lay-out. Change part number from 7L0089-7024 TO 7L0089-7924A".				A.Hernandez	J. Loterte	C. Villanueva	A. Arañes
09/20/23	0	Initial Release				M. Mnalac	J. Loterte	C. Villanueva	A. Arañes
Eff. Date	Rev. No	Details of Change				Revised	Reviewed	Approved	Noted
						Est. Date:	September 20, 2023		

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Revision No.:

1

Page No.:

2 of 10

PARTS:		1. Assy parts 2. Black Corrugated tube (no slit) Ø5 L=87±3mm		JIG:	1. Terminal cover jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
2	P1	<div><div>1. Hold the wires using left hand, get the terminal cover jig using right hand then insert the B and B wires using left hand.</div></div> <div><div>2. Get the corrugated tube (no slit) Ø5 L=87±3mm using right hand then insert the B and B wires using left hand.</div></div> <div><div>3. After insertion, remove the terminal cover jig using right hand.</div></div>		<div>TERMINAL COVER JIG</div> 	1. No wrong use of parts 2. No deformed terminal

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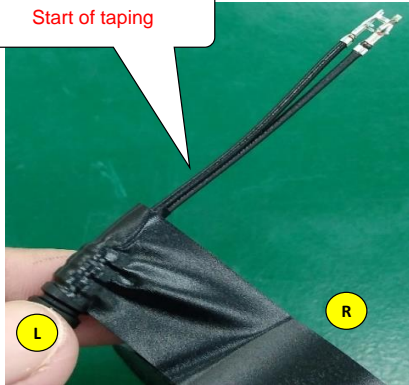

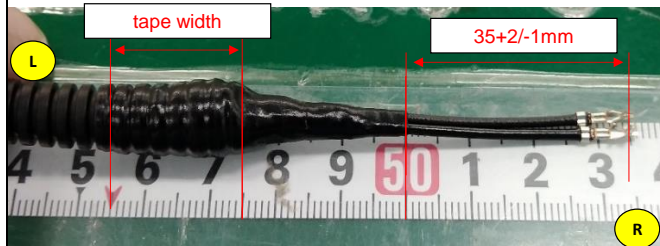

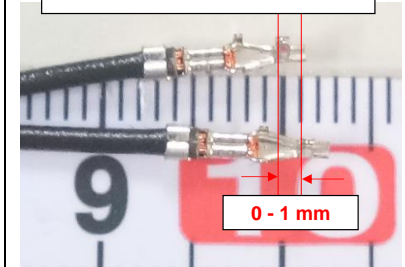
WI-ENG-PDE-725B

Revision No.:

1

Page No.:

3 of 10

PARTS:		1. Assy parts 2. Black tape	JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
3	n/a Taping 2 Black corrugated tube to wire near terminal	<div><p>Start of taping</p><p>1. Hold the COT using left hand, get the Black tape using right hand then start pre-taping using both hands.</p></div> <div><p>2. Measure from end of COT up to terminal pointed tip 60±3mm then continue the taping process using both hands.</p></div> <div><p>3. After taping, check the measurement, taping condition and terminal appearance.</p></div>	<p>MEASURING TAPE</p> 	<p>Wire alignment tolerance</p>  <ul style="list-style-type: none">1. No flip-out tape2. No peel-off tape3. No loose tape4. No missing tape5. No wrong use of tape6. No wrong dimension <p>Important reminders/Note/s:</p> <p>1. Please use calibrated/verified measuring tape when getting the measurement.</p>

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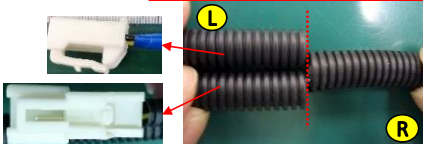
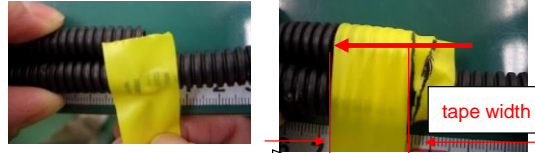
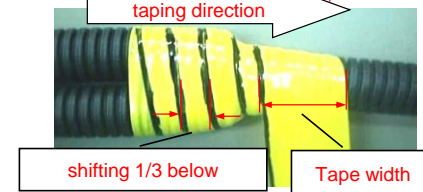
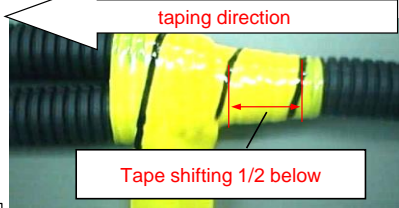
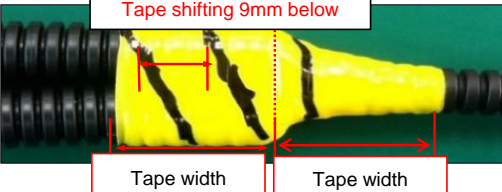

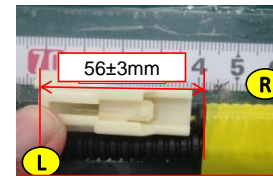


WI-ENG-PDE-725B

Revision No.:

1

Page No.:

4 of 10

PARTS:		1. Assy parts 2. Gray tape		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
4	n/a	Y-Taping	<div>No gap between Corrugated tubes</div> <div></div> <div>1. Fix the corrugated tube.</div> <div>Note: Do not exert excessive force during pulling & winding of tape</div> <div></div> <div>2. Start taping at the middle of combined Corrugated tubes, then wind the tape to left side, measurement from end of connector up to end of tape must be 55mm.</div> <div></div> <div>3. Wind the tape 1/3 shifting until it reach the other side of corrugated tube (must be tape width)</div> <div></div> <div>4. Wind the tape backward 1/2 shifting.</div> <div></div> <div>5. Wind the tape 1/2 shifting going to other side of corrugated tube then cut the tape. After taping, check the condition of tape.</div>	<div>MEASURING TAPE</div> 	<div></div> <div>Good Measurement</div> <div></div> <div>GOOD FACING</div> <div></div> <div>NG FACING</div> <div>Important reminders/Note/s:</div> <div>1. Used Yellow tape for easy visualization of shifting lines, but actual should be <u>GRAY TAPE</u>.</div> <div>2. Please use calibrated/verified measuring tape when getting the measurement.</div> <div>1.No flip out tape 2.No tape peeling 3. No loose tape 4. No wrong use of tape 5. No gap between Corrugated tubes 6. No exposed wire</div>

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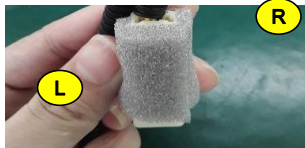
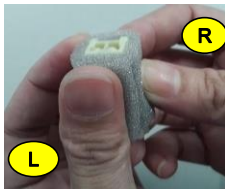

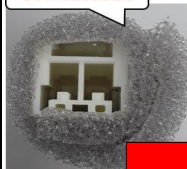
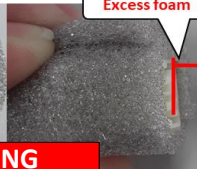
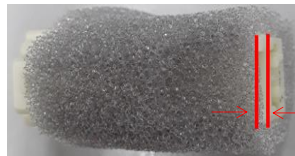
WI-ENG-PDE-725B

Revision No.:

1

Page No.:

5 of 10

PARTS:	1. Assy parts		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
5	n/a Urethane foam manual attachment to connector	<div><div><div>Step 1: Identify the right facing to attached the foam</div><div><div>COT</div><div>Connector</div></div></div><div><div>Step 2: Get the Urethane foam and begin the attachment.</div><div>Note: Foam and connector must be align</div></div><div><div>Step 3: Attached the foam in all sides of the connector.</div><div>Note: Follow the attachment sequence based on the illustration</div></div><div><div><div><div><div>L</div><div>R</div></div></div><div><div><div>L</div><div>R</div></div></div><div><div><div>L</div><div>R</div></div></div></div><div><div><div><div>L</div><div>R</div></div></div><div><div><div>L</div><div>R</div></div></div></div><div><div>Step 4: Press the Urethane foam side by side after attachment.</div></div></div></div>	N/A	<div>DO NOT STRETCH THE URETHANE FOAM</div> <div><div></div><div>GOOD</div></div> <div><div><div>Over-stretched</div></div><div><div>Excess foam</div></div></div> <div>NG</div> <div><div></div><div>0~3mm tolerance from Urethane foam to Connector</div></div> <div><div>1. No damaged Urethane foam</div><div>2. No missing Urethane foam</div><div>3. No stretched Urethane foam</div></div>

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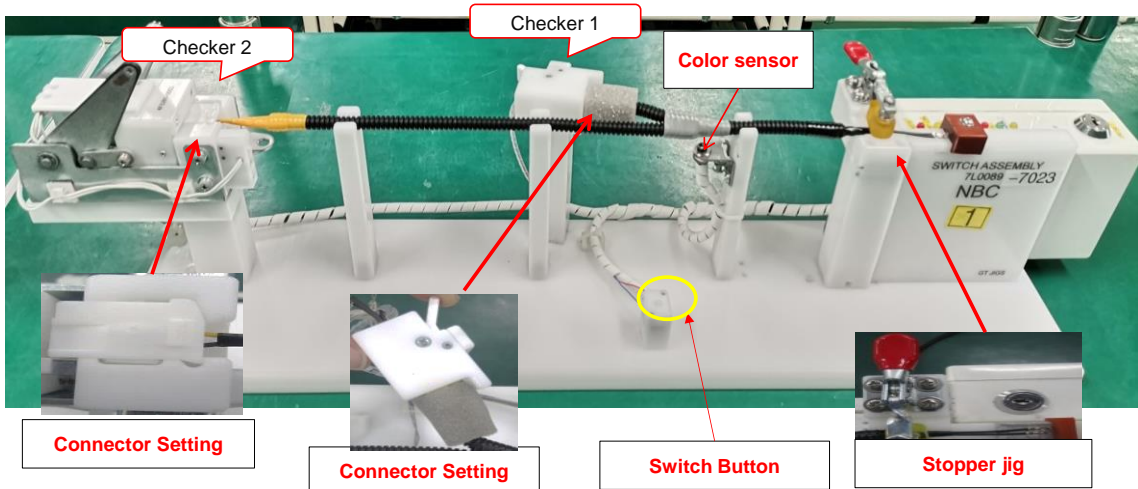
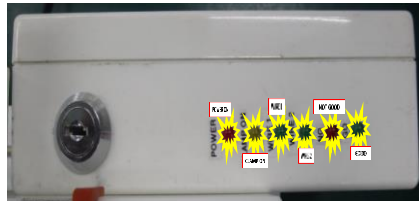
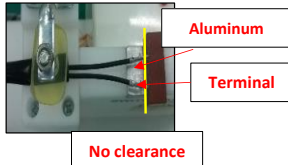
☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

Revision No.:

1

Page No.:

6 of 10

PARTS:	1. Assy parts		JIG:	1. Continuity checker jig.
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
6	n/a	Continuity Test	<div><div><p>1. Get the assy parts and set to tester jig using both hands. First, set the connector 7282-1028 (W) to Clip Checker 1 then lock. Second, set the connector 4F5260-0000 (W) to Checker 2 then pull the checker fixture for continuity checking. Last, set the B-B wires together within the stopper jig then press by toggle clamp. (See above picture for correct setting).</p><p>2. Check if all LED light for Power, Clamp on, Wire1, Wire2 & B-B Wires. Check if the color Sensor detected the Gray tape was ON. If encounter abnormality or hearing NG buzzer, STOP and immediately CALL the attention of the leader. WAIT for further instruction and continue the process.</p></div></div> <div></div>	<div><p>Important reminders/Note/s:</p><p>1. Terminals should touch the aluminum to check the continuity of wires.</p></div>

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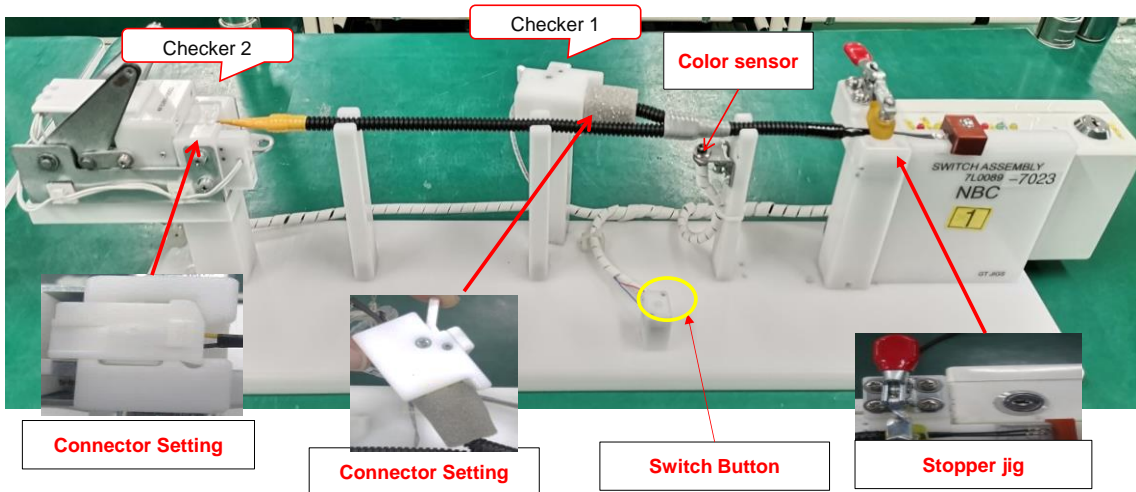
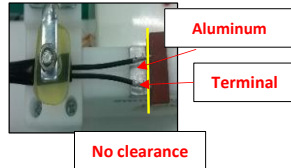
WI-ENG-PDE-725B

Revision No.:

1

Page No.:

7 of 10

PARTS:	1. Assy parts		JIG:	1. Continuity checker jig.
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
6	n/a	<div>Continuity Test (Continuation)</div> <div><p>3. Press the SW button using right hand for continuity checking. GO sound will be heard.</p><p>4. Conduct POINT CHECKING before removing the harness from jig.</p><p>5. For the removal of harness from the jig, First, remove the B-B wires to toggle clamp. Second, remove the connectors to checker 1 and last checker 2.</p></div>	<div><p>Aluminum</p><p>Terminal</p><p>No clearance</p><p>Important reminders/Note/s:</p><p>1. Terminals should touch the aluminum to check the continuity of wires.</p></div>	<div>1. No wrong insert</div> <div>2. Make sure no gap between terminal and stopper jig</div>

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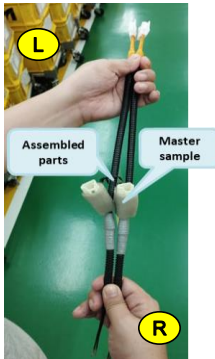
Revision No.:

1

Page No.:

8 of 10

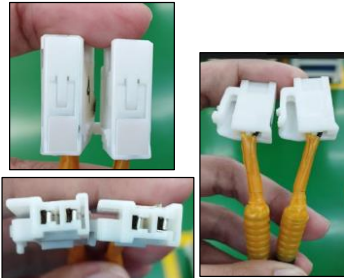
PARTS:		1. Assembled parts 2. Master sample		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
7	n/a	Visual/By Two's Inspection			




Assembled parts

Master sample

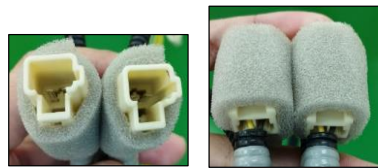
1. Conduct alignment of harness
(Master sample vs. Assembled parts)
using both hands.



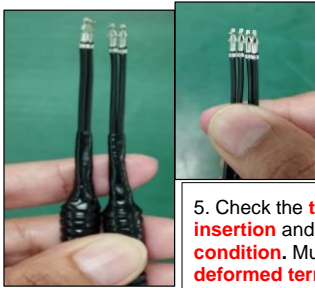
2. Check the connector lock,
terminal an taping condition.




4. Check the Y-
Taping
condition.




3. Check the terminal, insertion
and presence of urethane foam.



5. Check the terminal,
insertion and taping
condition. Must no
deformed terminal.



ACTUAL PRODUCT



MASTER SAMPLE

1. No skip checking during inspection.

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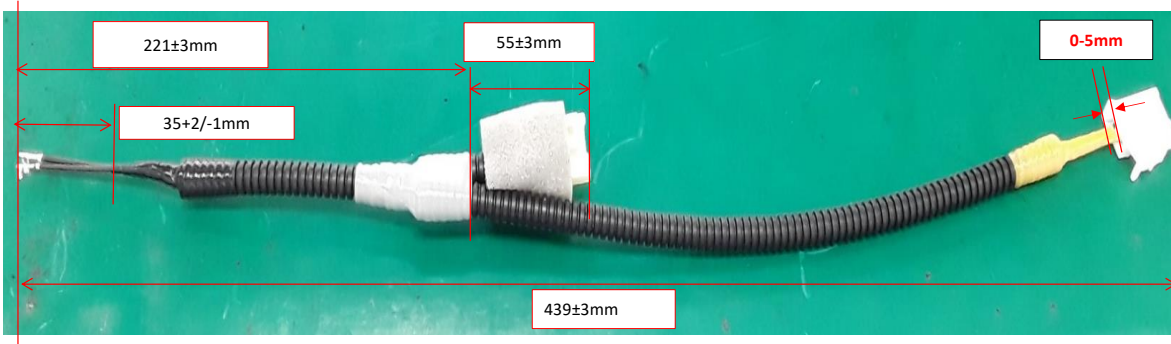
☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

Revision No.:

1

Page No.:

9 of 10

PARTS:	1. Assy parts			JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
8	n/a	Measurement			1. No wrong dimension Important reminders/Note/s: 1. Please use calibrated/verified measuring tape when getting the measurement 2. For Hatsumono and Owarimono only

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☒ MASSPRO



Revision No.:

1

Page No.:

10 of 10

PARTS:

n/a

JIG:

n/a

QUALITY CHECKPOINTS

P2

7L0089-7024A



GOOD



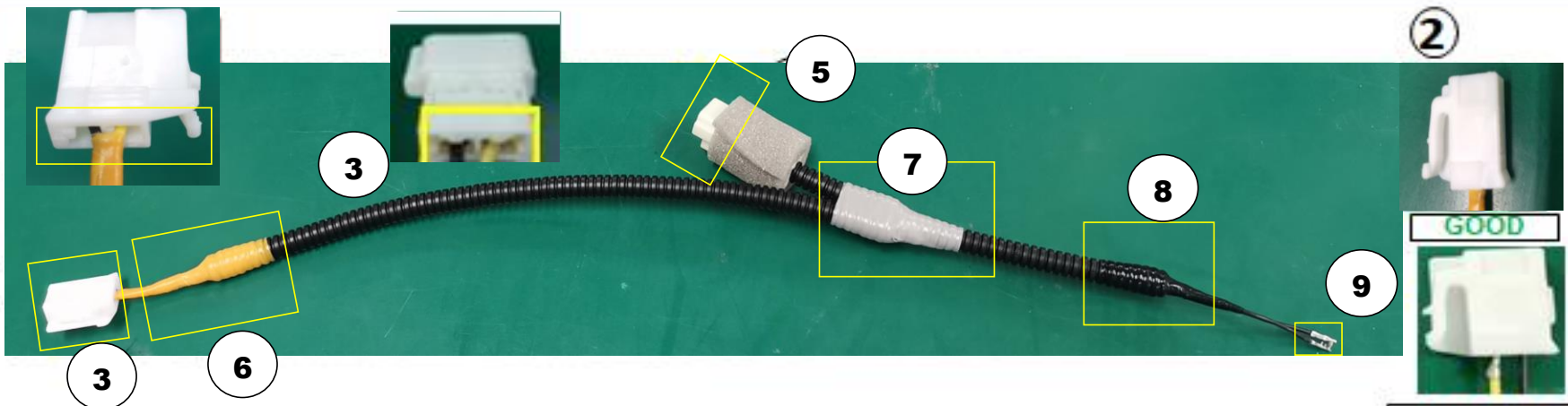
NO GOOD



GOOD



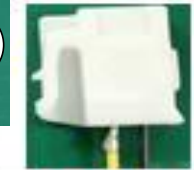
NO GOOD



2



GOOD



NO GOOD

① No Unlocked/ Half Locked Connector

② No Terminal Backing Out

③ ④ No wrong insert

⑤ No Missing Sponge tape

⑥ ⑦ ⑧ No Missing Tape/ No wrong color of tape

⑨ No Deformed Terminal

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