



WORK INSTRUCTION

Process Name/Title: **CLAMP ASSEMBLY PROCESS**Model code/Part number: **310D / 7N0197-7020** Customer: **TRJ** Car Model: **TOYOTA-RAV4**Purpose: ☐ PROTOTYPE ☐ PRE-LAUNCH ☒ MASSPRO

Effectivity Date:

March 1, 2024

Validity Date:

n/a

Document No.:

WI-ENG-PDE-860

Revision No.:

0

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PARTS:

1. Assy parts; Clamp 82711-48210 (B); Clamp 82711-52090 (W); Clamp 82711-33650 (B); Black tape [6pcs]

JIG:

1. Clamp assembly jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

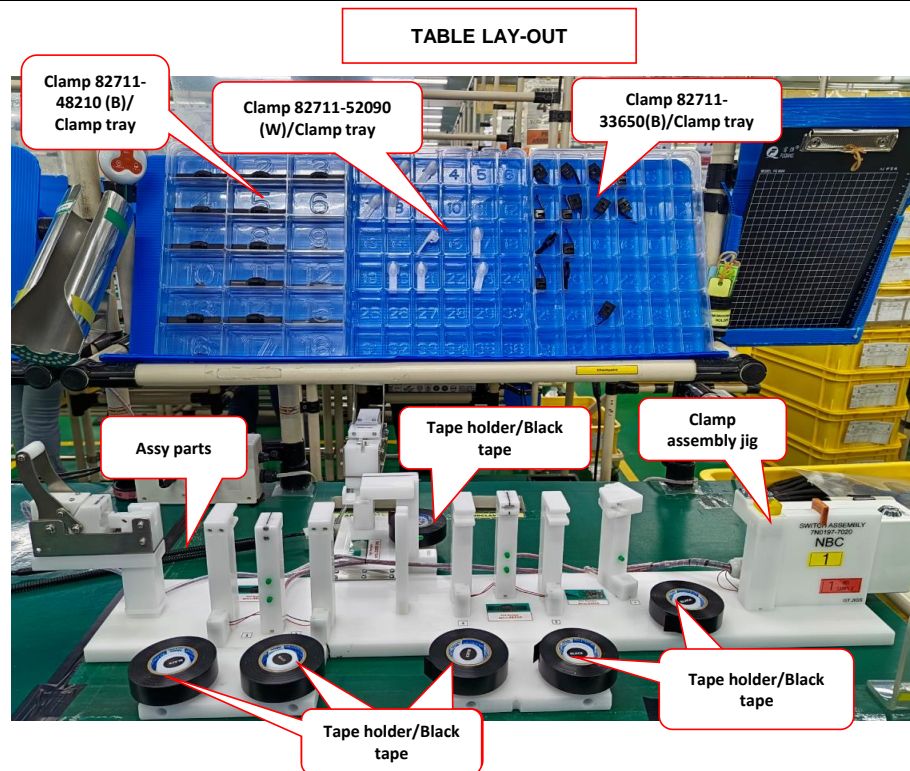
TOOLS/PPE

QUALITY POINTERS

1

n/a

Table lay-out

**Safety Instruction**

Be sure to wear prescribed personal protective equipment during operation (gloves, finger cots, etc.)

Housekeeping

1. Maintain and always practice 5's.
2. Personal things on the workplace is prohibited. Keep it in your locker.

Alert level

For any trouble, inform the Assembly Assistant Supervisor or Line Leader for immediate corrective action.

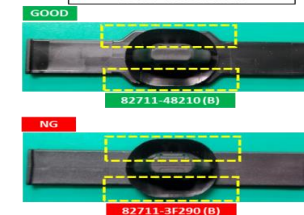
Document reference/s:
1. Please check the clamp first before assembly to avoid wrong use of tape.

1. No missing parts/tools
2. No excess parts/tools

CLAMP ILLUSTRATION



CLAMP ILLUSTRATION



Revision History

Eff. Date	Rev. No	Details of Change	M.A riola	C. Villanueva	A. Arañes	n/a	Prepared by	Reviewed by	Approved by	Noted by
03/01/24	0	Initial Issue. The excluded process from WI-ENG-PDE-778 due to new process distribution. Change the Document title from TAPING ASSEMBLY PROCESS to CLAMP ASSEMBLY PROCESS . Change purpose from Pre-launch to Masspro. Additional table layout; Improve Work procedure/ illustration.								n/a
			Revised	Reviewed	Approved	Noted	Est. Date:	March 1, 2024		

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PARTS:

1. Clamp 82711-48210(B) [2pcs]
2. Clamp 82711-52090 (W)

3. Clamp 82711-33650 (B)
4. Black tape [6pcs]

JIG:

1. Clamp assembly jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

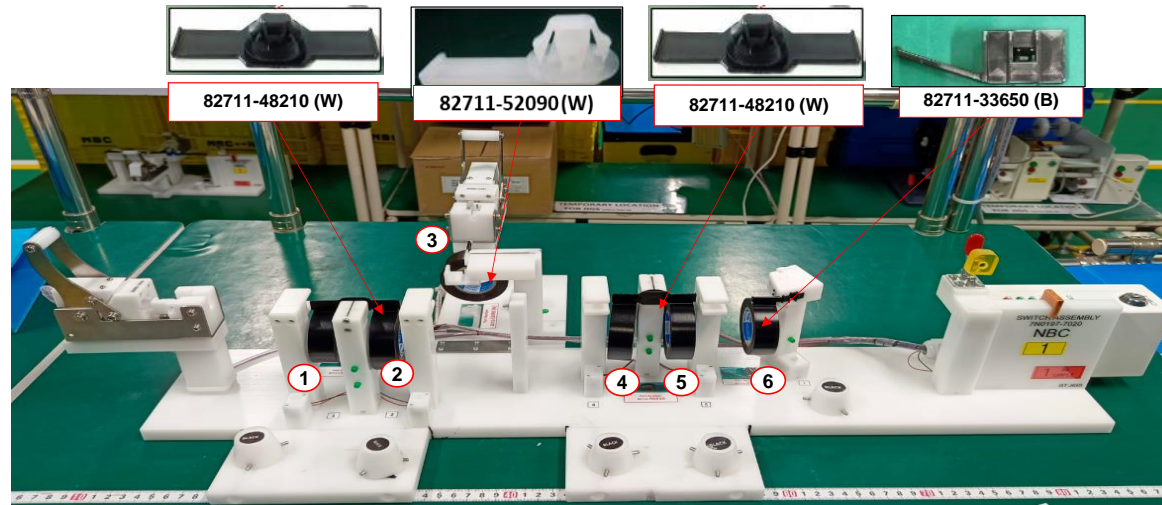
TOOLS/PPE

QUALITY POINTERS

2

n/a

Clamp setting



1. Get 1pc. of clamp **82711-48210 (B)** then set to clamp location **1** and **2** using both hands.

2. Get 1pc. of clamp **82711-48210 (B)** then set to clamp location **4** and **5** using both hands.

3. Get 1pc. of clamp **82711-52090 (W)** then set to clamp location **3** using both hands.

4. Get 1pc. of clamp **82711-33650 (B)** then set to clamp location **6** using both hands.

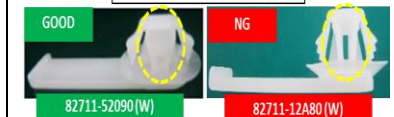
5. Get the **Black tape** then initially attach to clamp location **1,2,3,4,5 and 6** using both hands.

1. No wrong use of clamp
2. No damaged clamp
3. No wrong use of tape

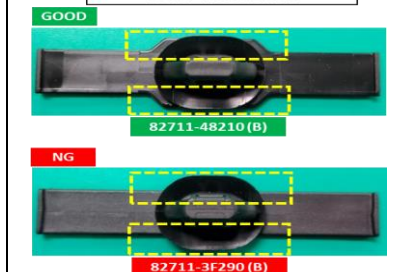
Important reminders/Note/s:

1. Please check the clamp first before start of assembly to avoid wrong use of clamp.

CLAMP ILLUSTRATION



CLAMP ILLUSTRATION



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NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
3	n/a	Clamp assembly			
		<div><div><p>82711-48210 (W)</p><p>82711-52090 (W)</p><p>82711-48210 (W)</p><p>82711-33650 (B)</p><p>1</p><p>2</p><p>3</p><p>4</p><p>5</p><p>6</p></div><div><p>1. Put the assy parts into jig (<i>See above picture for the correct setting</i>). First, set the connector 6098-3802 (W) to checker 1. Second, set the (VM tube (Sunprene) with B-B wires together with the stopper then press by toggle clamp. Last, initially put the COT (with Connector 6098-2220(W)) in hook.</p><p>2. Check if LED light for POWER, CLAMP, WIRE 1 and WIRE 2, and sequence light was ON. If encountered abnormality, STOP immediately and CALL the attention of the leader . WAIT for the further instructions. Continue it the sequence light on location 1 was ON.</p></div><div><div><p>COT 1</p><p>COT 2</p><p>SIDE A</p><p>SIDE B</p><p>HOOK</p><p>Note: Refer to above illustration for the correct setting.</p></div><div><p>3. Wrap the COT 2 (SIDE A) of clamp 2 windings of tape using both hands. Press the SW button after taping (Do not cut the tape).</p><p>4. Wrap the COT 1 (SIDE B) of clamp 2 windings of tape using both hands. Press the SW button after taping (Do not cut the tape).</p></div></div></div>			<div><p>1. No loose/tight clamp attachment. 2. No damaged clamp. 3. No missing tape. 4. No missing spot tape. 5. No missing parts 6. Make sure there is no clearance between the PCB and the stopper jig</p></div> <div><div><p>CLAMP ILLUSTRATION</p><p>GOOD NG </p><p>82711-52090 (W)</p><p>82711-12A80 (W)</p></div><div><p>CLAMP ILLUSTRATION</p><p>GOOD NG </p><p>82711-48210 (B)</p><p>82711-3F290 (B)</p></div></div>

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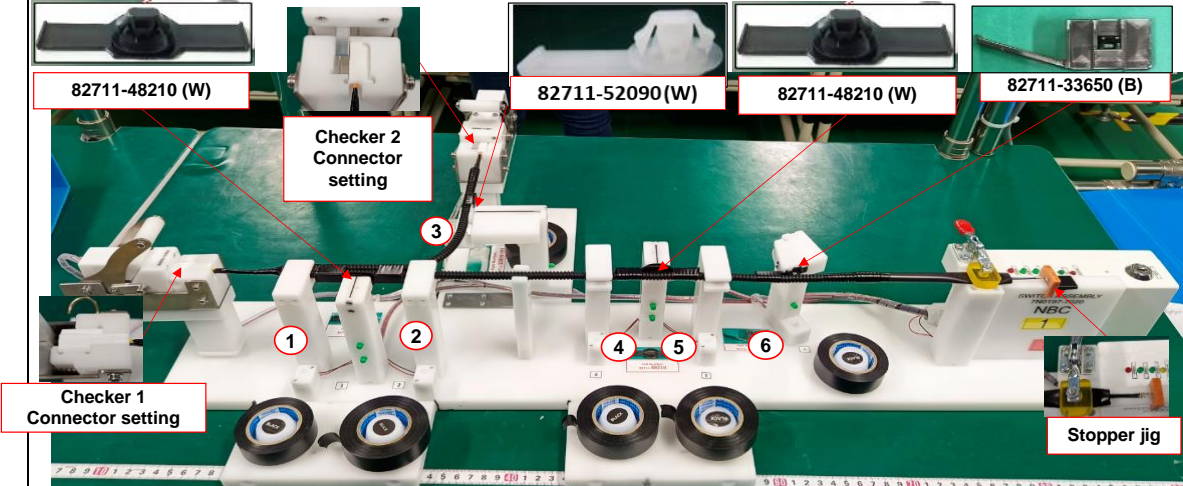
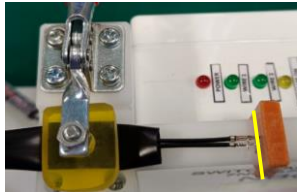




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PARTS:		1. Assy parts 2. Black tape		JIG:	1. Clamp assembly jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
3	n/a Clamp assembly	<div><p>82711-48210 (W)</p><p>Checker 2 Connector setting</p><p>82711-52090 (W)</p><p>82711-48210 (W)</p><p>82711-33650 (B)</p><p>Checker 1 Connector setting</p><p>Stopper jig</p></div> <div><p>5. Remove the COT 1 from the hook and set the connector 6098-2220 (W) to Checker 2 using both hands then lock. (<i>Refer to above illustration for the correct setting</i>). Continue the process if the sequence light was ON.</p><p>6. Combine the COT 1 and COT 2. Hold the black tape on clamp location 1 (SIDE A) then start taping using both hand. Make 3 windings of tape then cut the tape. Press the SW button after taping. Continue the process if the sequence light on location 2 was ON.</p><p>7. On Clamp location 2 (SIDE B). Hold the Black tape using right hand. Make 3 winding of tape then cut the tape. Press the SW button after taping. Continue the process if the sequence light on location 3 was ON.</p></div>		<div><p>Stopper jig</p></div> <div><p>CLAMP ILLUSTRATION</p><div><div>GOOD</div><p>82711-52090 (W)</p></div><div><div>NG</div><p>82711-12A80 (W)</p></div></div> <div><p>CLAMP ILLUSTRATION</p><div><div>GOOD</div><p>82711-48210 (B)</p></div><div><div>NG</div><p>82711-3F290 (B)</p></div></div>	<div><p>1. No loose/tight clamp attachment.</p><p>2. No damaged clamp.</p><p>3. No missing tape.</p><p>4. No missing spot tape.</p><p>5. No missing parts</p><p>6. Make sure there is no clearance between the PCB and the stopper jig</p></div>

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Car Model: TOYOTA-RAV4

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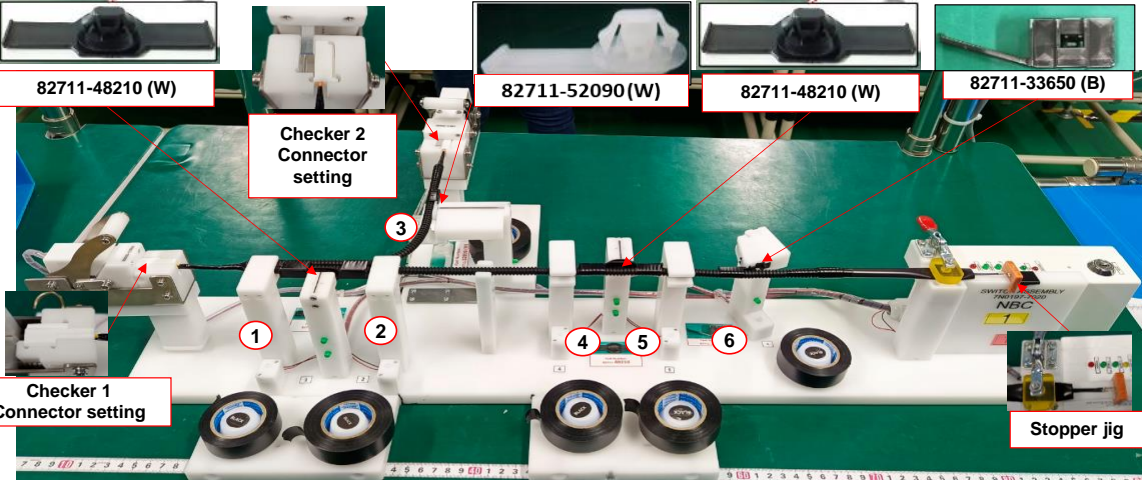

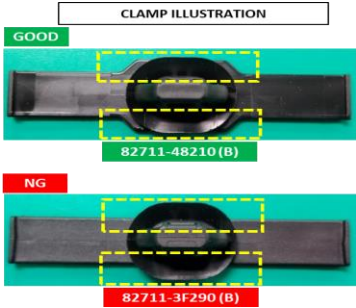
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PARTS:	1. Assy parts 2. Black tape		JIG:	1. Clamp assembly jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
3	n/a Clamp assembly (Continuation)	 <p>8. On Clamp location 3 hold the Black tape using right hand. Make 3 winding of tape then cut the tape. Press the SW button after taping. Continue the process if the sequence light on location 4 was ON.</p> <p>9. On Clamp location 4 hold the Black tape using right hand. Make 3 winding of tape then cut the tape. Press the SW button after taping. Continue the process if the sequence light on location 5 was ON.</p> <p>10. On Clamp location 5 hold the Black tape using right hand. Make 3 winding of tape then cut the tape. Press the SW button after taping. Continue the process if the sequence light on location 6 was ON.</p> <p>11. On Clamp location 6 hold the Black tape using right hand. Make 3 winding of tape then cut the tape. Press the SW button after taping. GO buzzer will be heard.</p> <p>12. After taping, CONDUCT POINT CHECKING before removing the harness from jig.</p>	 	<p>1. No loose/tight clamp attachment. 2. No damaged clamp. 3. No missing tape. 4. No missing spot tape. 5. No missing parts 6. Make sure there is no clearance between the PCB and the stopper jig</p>

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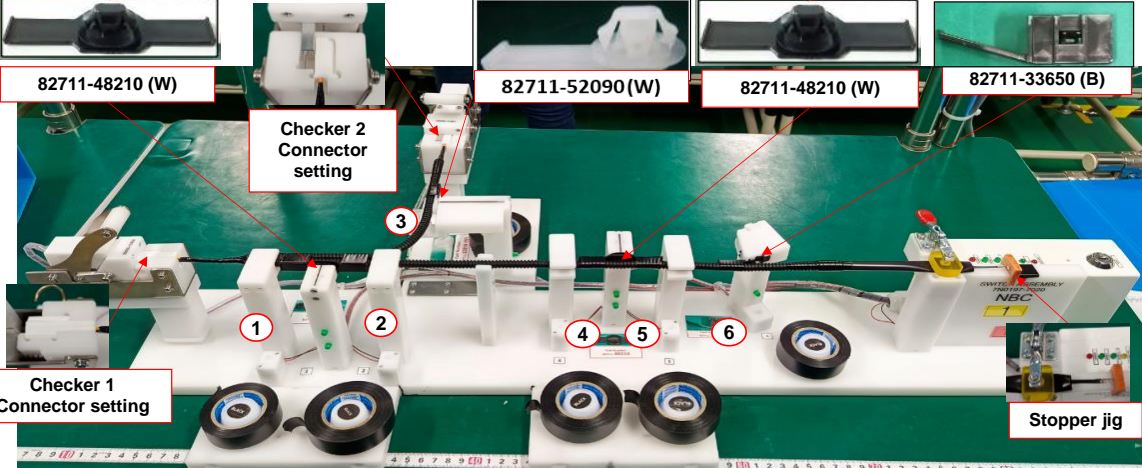
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PARTS:	1. Assy parts 2. Black tape		JIG:	1. Clamp assembly jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
3	n/a Clamp assembly (Continuation)	 <p>4. On Clamp location 3 hold the Black tape using right hand. Make 3 winding of tape then cut the tape. Press the SW button after taping. Continue the process if the sequence light on location 4 was ON.</p> <p>5. On Clamp location 4 hold the Black tape using right hand. Make 3 winding of tape then cut the tape. Press the SW button after taping. Continue the process if the sequence light on location 5 was ON.</p> <p>6. On Clamp location 5 hold the Black tape using right hand. Make 3 winding of tape then cut the tape. Press the SW button after taping. Continue the process if the sequence light on location 6 was ON.</p> <p>7. On Clamp location 6 hold the Black tape using right hand. Make 3 winding of tape then cut the tape. Press the SW button after taping. GO buzzer will be heard.</p> <p>8. After taping, CONDUCT POINT CHECKING before removing the harness from jig.</p>		<p>1. No loose/tight clamp attachment. 2. No damaged clamp. 3. No missing tape. 4. No missing spot tape. 5. No missing parts 6. Make sure there is no clearance between the PCB and the stopper jig</p> <p>CLAMP ILLUSTRATION</p> <p>GOOD NG</p> <p>82711-52090 (W) 82711-12A80 (W)</p> <p>CLAMP ILLUSTRATION</p> <p>GOOD NG</p> <p>82711-48210 (B) 82711-3F290 (B)</p>

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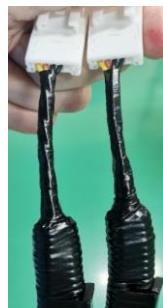







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PARTS:	1. Assy parts 2. Master sample		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
4	n/a Visual/ By two's inspection	<div data-bbox="562 387 1720 699">ACTUAL PRODUCTS </div> <div data-bbox="551 699 725 1321"><p>ASSEMBLED PARTS</p></div> <div data-bbox="741 922 842 978"><p>Master sample</p></div> <div data-bbox="741 1114 954 1281"><p>1. Conduct alignment of harness (Assembled parts vs. Engineering sample) using both hands.</p></div> <div data-bbox="869 703 1122 906"></div> <div data-bbox="875 938 1323 986"><p>2. Check the connector lock, terminal, insertion and taping condition.</p></div> <div data-bbox="1128 703 1350 906"></div> <div data-bbox="1406 1026 1619 1074"><p>3. Check the Y-Taping condition.</p></div> <div data-bbox="1469 703 1630 1011"></div> <div data-bbox="1361 1161 1709 1233"><p>4. Check the presence of all clamp attachment, taping condition, color of tape condition.</p></div> <div data-bbox="981 1082 1167 1246"></div> <div data-bbox="1173 1082 1350 1246"></div>		<p>1. No skip checking during inspection.</p> <div data-bbox="1794 539 2078 579"><p>MASTER SAMPLE</p></div> <div data-bbox="1731 608 2119 724"></div> <div data-bbox="1765 746 2074 770"><p>CONNECTOR ILLUSTRATION</p></div> <div data-bbox="1749 778 1816 802"><p>GOOD</p></div> <div data-bbox="1921 778 1977 802"><p>NG</p></div> <div data-bbox="1749 802 1899 994"></div> <div data-bbox="1921 802 2078 994"></div> <div data-bbox="1749 994 1899 1018"><p>6098-3802 (W)</p></div> <div data-bbox="1921 994 2078 1018"><p>6098-5668 (W)</p></div> <div data-bbox="1861 1058 1989 1082"><p>CLAMP ILLUSTRATION</p></div> <div data-bbox="1749 1090 1816 1114"><p>GOOD</p></div> <div data-bbox="1921 1090 1977 1114"><p>NG</p></div> <div data-bbox="1749 1114 1921 1201"></div> <div data-bbox="1921 1114 2119 1201"></div> <div data-bbox="1749 1201 1899 1225"><p>82711-52090 (W)</p></div> <div data-bbox="1921 1201 2078 1225"><p>82711-12A80 (W)</p></div>

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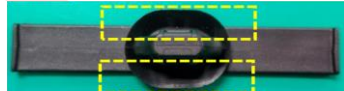
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PARTS:		1. Assy parts 2. Master sample		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
4	n/a Visual/ By two's inspection (Continuation)	<div><div>5. Check the presence of clamp attachment, taping condition, color of tape. Conduct slightly bending of parts with wing type-clamp. Check the inside spot taping.</div></div> <div><div>6. Check the taping condition of COT to sunprene tube. Conduct slightly bending.</div></div> <div><div>7. Check the terminal appearance</div></div>			<div>1. No skip checking during inspection.</div> <div>MASTER SAMPLE</div> <div></div> <div>CLAMP ILLUSTRATION</div> <div><div>GOOD</div><div>82711-48210 (B)</div></div> <div><div>NG</div><div>82711-3F290 (B)</div></div>

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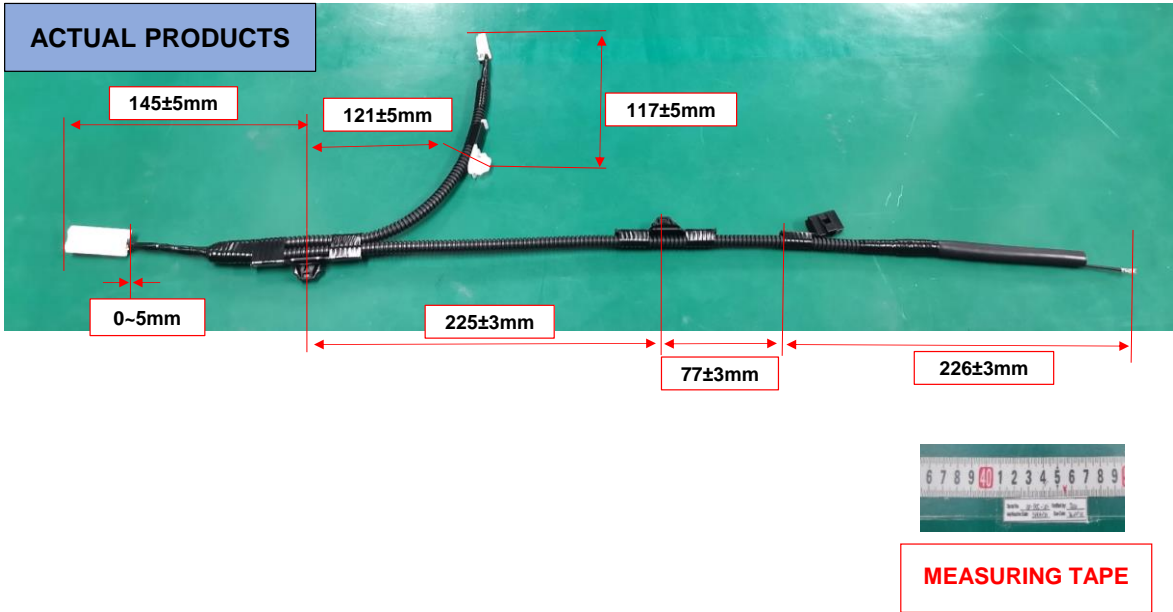
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PARTS:	1. Assy parts			JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
5	n/a	Measurement	<p>ACTUAL PRODUCTS</p>  <p>MEASURING TAPE</p>		<p>1. No wrong dimension</p> <p>Important reminders/Note/s:</p> <p>1. Please use calibrated/verified measuring tape when getting the measurement.</p> <p>2. For Hatsumono and Owarimono.</p> <p>Document reference/s:</p> <p>1. Refer to WI-PRO-ASY-056 for Sub assembly Hatsumono, Nakamono, and Owarimono Inspection.</p>

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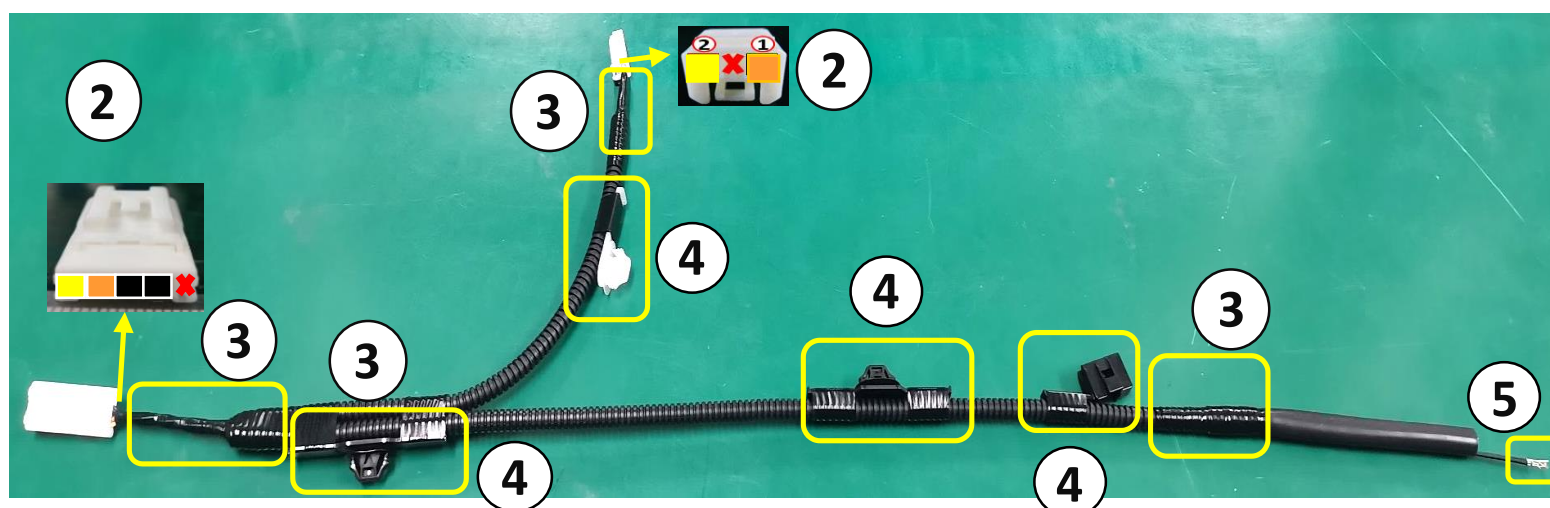
JIG:

n/a

QUALITY CHECKPOINTS

CLAMP
ASSY

7N0197-7020



1 No Unlock/
Halflocked Connector
(on 2 connector)

2 No Wrong insert (no
wrong slot)

3 No Missing spot tape
and Tape

4 No Missing Clamp and
Bending of 2 sides of
wing clamp

5 No Deformed Terminal

6 Checking of
Clamp
Alignment

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