



WORK INSTRUCTION

TAPING ASSEMBLY PROCESS

Effectivity Date:

February 16, 2024

Process Name/Title:

Validity Date:

n/a

Model code/Part number:

311D / 7L0152-7022

Customer:

TRQSS

Car Model:

TOYOTA-RAV4

Document No.:

WI-ENG-PDE-833

Purpose:

☐ PROTOTYPE☒ PRE-LAUNCH☐ MASSPRO

Revision No.:

0

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PARTS:

1. Connector 6098-3802 (W)
2. AVSSf 0.3 B L=637±3mm
3. AVSSf 0.3 B L=637±3mm

JIG:

n/a

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

TOOLS/PPE

QUALITY POINTERS

1

n/a

Wire insertion to connector



Visual Reference



Connector Facing

Wire Terminal Facing



1. Hold the connector **6098-3802 (W)** then get the **Black wire L=637±3mm** and insert to terminal **slot 1** of connector using right hand. Conduct **2x** push pull after wire insertion.



2. Hold the connector **6098-3802 (W)** then get the **Black wire L=637±3mm** and insert to terminal **slot 2** of connector using right hand. Conduct **2x** push pull after wire insertion.

Safety Instruction
Be sure to wear required 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.

1. No wrong orientation of connector
2. No wrong use of connector
3. No damaged connector
4. No wrong insertion of wires
5. No loose insertion
6. No wrong insertion
7. One by one insertion
8. No deformed terminal
9. No wrong wire facing

Important reminder's/Note:

1. **Make sure wires are properly inserted. Conduct Pull-Push-Pull-Push after insertion. Do not exert extra force. Please hold the wire near terminal.**

Document references:

1. **Refer to WI-PRO-CNC-017 for Wire Strip length tolerance. Refer to GL PRO-ASY-029 for pull-push-pull-push procedure**

Revision History

Prepared by

Reviewed by

Approved by

Noted by

02/16/24 0 Initial issue.

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n/a

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A. Arañes

n/a

Eff. Date Rev. No

Details of Change

Revised

Reviewed

Approved

Noted

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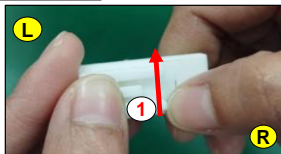


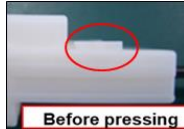


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PARTS:	1. Assy parts		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
2	n/a Connector lock	<div><div><p>1. Load the connector into the jig holding both side of the connector, tip first.</p></div><div><p>2. Press the lower part of connector to fully insert into the locking jig.</p></div><div><p>Right thumb-Lower Left thumb-middle</p><p>3. Press the lower parts of connector using right hand while left hand holding the middle.</p></div><div><p>Right thumb-upper thumb-middle Left</p><p>4. Press the upper part of connector using right hand while left hand holding the middle.</p></div><div><p>Right thumb-middle Left thumb-middle</p><p>5. Lift then press the connector in the middle using left and right hand.</p></div><div><p>6. Ensure that connector is in locked condition by slide touching the connector lock based on the sequence illustrated.</p></div></div> <div><div>LOCKING JIG</div></div> <div><div>1. Use the provided jog per model</div><div>2. No unlocked/half-locked connector</div><div>Important reminders/Note/s:</div><div>1. MANUAL LOCKING MAY CAUSE DAMAGED CONNECTOR LOCK</div><div>2. Use provided jig tool per model to avoid damaged lock.</div><div>Document references:</div><div>1. Refer to GL-PRO-ASY-017 for the verification of connector lock.</div><div></div><div><div>GOOD</div><div>NG</div><div></div><div>Full Lock</div><div>Half Lock</div></div></div>		




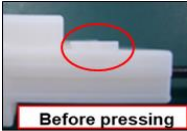
1. Use the provided jig per model
2. No unlocked/half-locked connector

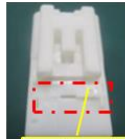

Important reminders/Note/s:

1. MANUAL LOCKING MAY CAUSE DAMAGED CONNECTOR LOCK
2. Use provided jig tool per model to avoid damaged lock.

Document references:

1. Refer to GL-PRO-ASY-017 for the verification of connector lock.





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PARTS:		1. Assy parts 2. Black Corrugated tube $\varnothing 5$ L=499 \pm 4mm (no slit)		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
3	n/a	<div>Wire Insertion to Black Corrugated tube $\varnothing 5$ L=499\pm4mm (no slit)</div> <div></div> <div>1. Get the Black corrugated tube $\varnothing 5$ L=499\pm4mm (no slit) using left hand and get B-B wires using right hand then insert.</div>		n/a	1. No wrong usage of parts. 2. No deformed terminal

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PARTS:		1. Assy parts 2. Black tape		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
4	n/a Taping 1 Black Corrugated tube to Wire near Terminal	<div><p>1. Hold the COT using left hand, get Black tape using right hand and start pre-taping between COT and wire.</p></div> <div><p>2. Hold the corrugated tube using left hand and measure from end of COT to terminal pointed tip 131mm and proceed to taping process. <i>Please refer to WI-PRO-ASY-001 for taping procedure.</i></p></div> <div><p>3. After taping, check the measurement and taping condition.</p></div>		<div>MEASURING TAPE</div>	<p><i>Note:</i> Please use calibrated/verified measuring tape when getting the measurement.</p> <div>Wire alignment tolerance</div> <p>1. No loose tape 2. No flip-out tape 3. No peel-off tape 4. No wrong use of tape 5. No wrong dimension</p>

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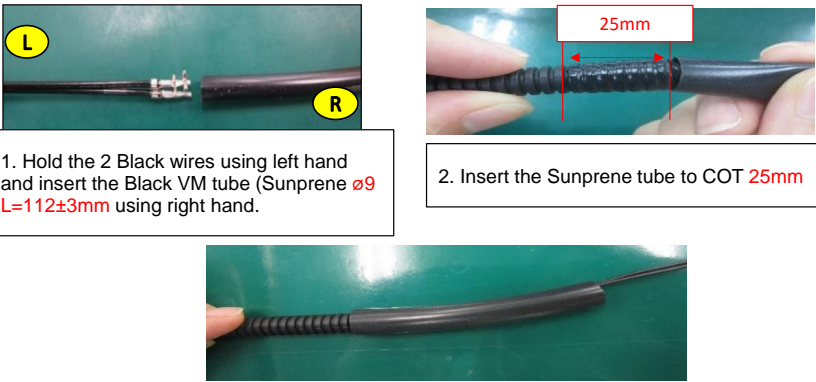
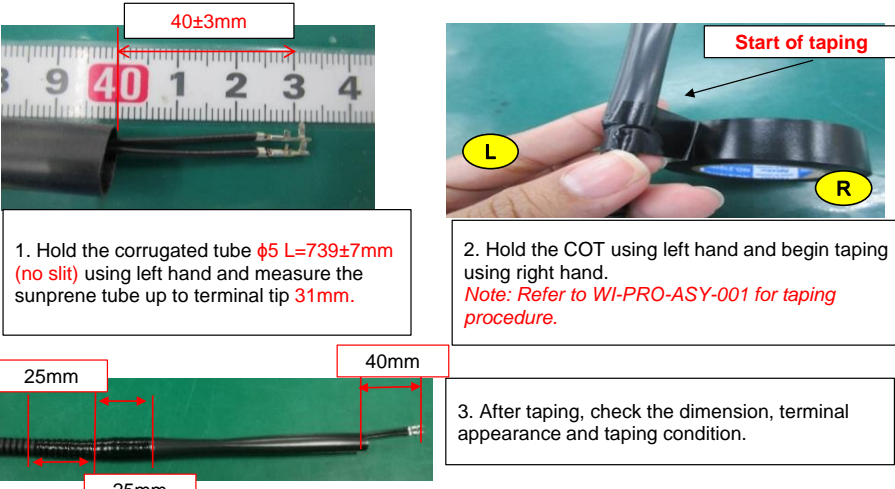

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PARTS:	1. Assy parts 2. Black VM tube (Sunprene) $\varnothing 9$, L=112 \pm 3mm			JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
5	Wire insertion to Black VM tube (Sunprene) $\varnothing 9$, L=112 \pm 3mm	 <p>1. Hold the 2 Black wires using left hand and insert the Black VM tube (Sunprene $\varnothing 9$, L=112\pm3mm) using right hand.</p> <p>2. Insert the Sunprene tube to COT 25mm</p>		n/a	1. No wrong use of parts.
6	n/a Taping 2 Black Corrugated tube to VM tube (Sunprene)	 <p>1. Hold the corrugated tube $\varnothing 5$ L=739\pm7mm (no slit) using left hand and measure the sunprene tube up to terminal tip 31mm.</p> <p>2. Hold the COT using left hand and begin taping using right hand. <i>Note: Refer to WI-PRO-ASY-001 for taping procedure.</i></p> <p>3. After taping, check the dimension, terminal appearance and taping condition.</p>		<p>MEASURING TAPE</p> 	<p>Important reminders/Notes</p> <p>1. Please use calibrated/verified measuring tape when fetting the measurement.</p> <p>1. No peel-off tape 2. No flip out tape 3. No loose tape 4. No wrong use of tape 5. No wrong dimension 6. No missing tape</p>

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PARTS:	1. Assy parts 2. Pink tape			JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
7	n/a	Spot Taping		n/a	<div>Important reminders/Notes</div> <div>1. Spot taping appearance should NOT exceed on tube but with 0~3mm exposed tube above spot tape</div> <div>1. No loose tape 2. No flip-out tape 3. No peel-off tape 4. No wrong use of tape 5. No wrong dimension</div> <div>SPOT TAPING ILLUSTRATION</div> <div><div>Front View</div><div>Top View</div><div>GOOD</div><div><div>Front View</div><div>Top View</div><div>NO GOOD</div></div></div>

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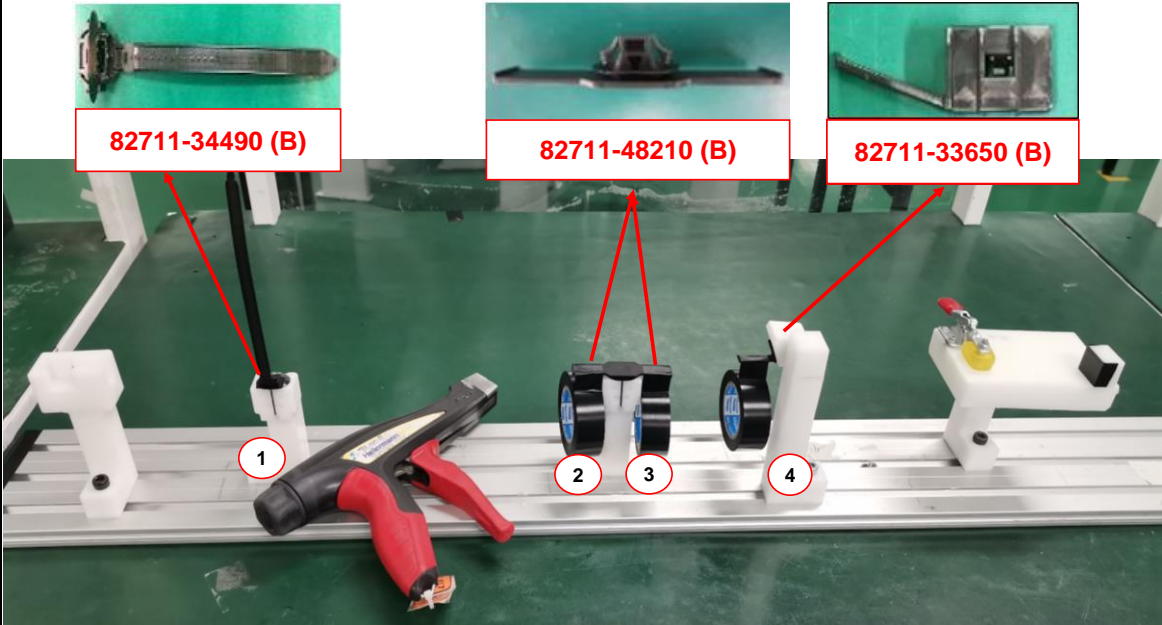


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PARTS:	1. Assy parts 2. Clamp 82711-34490 (B) 3. Clamp 82711-48210 (B) 4. Clamp 82711-33650 (B)			JIG:	1. Temporary jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS	
8	n/a Clamp Setting	<div></div> <div>1. Get 1pc of clamp 82711- 34490 (B) using right hand then set to Clamp location no. 1 using both hands.</div> <div>2. Get 1pc of clamp 82711-48210 (B) using right hand then set to Clamp location no. 2 and 3 using both hands.</div> <div>3. Get 1pc of clamp 82711-33650 (B) using right hand then set to Clamp location no. 4 using both hands.</div> <div>4. Initially attach BLACK TAPE to location 2,3, and 4 using both hands.</div>		Important reminders/Notes 1. Please check the clamp first before start of clamp assembly to avoid wrong use of clamp. 1. No wrong use of parts 2. No wrong use of tape 3. No damaged clamp 4. No wrong clamp position <div>CLAMP ILLUSTRATION</div> <div>GOOD  82711-48210 (B)</div> <div>NG  82711-3F290 (B)</div>	

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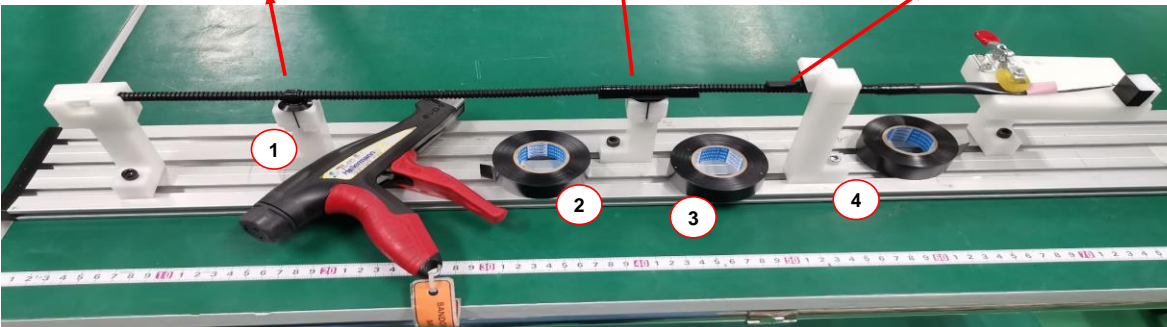

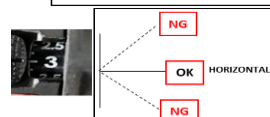
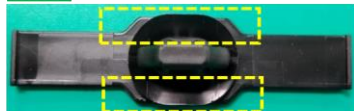
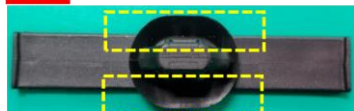
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PARTS:		1. Assy parts 3. Black tape	JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
9	n/a	Clamp Assembly	<div><div><p>82711-34490 (B)</p></div><div><p>82711-48210 (B)</p></div><div><p>82711-33650 (B)</p></div><div><p>1. Put the assy into jig. <i>(See above picture for the correct setting)</i>. First, set the connector 6098-3802 (W) to Receiver base 1. Second, set the B-B wires together within stopper then press by toggle clamp.</p><p>2. Initially tighten the band clamp on location 1 using both hands. Continue to clamp location 2.</p><p>3. Hold the tape on clamp location 2 and 3, make 3 windings of tape then cut the tape using both hands. Continue to clamp location 4.</p><p>4. Hold the tape on clamp location 4, make 3 windings of tape then cut the tape using both hands.</p></div><div><p>BANDO GUN POSITION ON CLAMP LOCATION 1</p><p>GOOD NG</p><p>Note: Setting of band clamp cutter depends on the size of the COT/Vinyl tube. For: ø5 - 1-2, ø7 - 3-4</p><p>BANDO GUN ALIGNMENT</p><p>NG OK NG</p><p>5. Conduct POINT CHECKING before removing the harness from jig.</p></div></div>	<p>Important reminders/Notes</p> <p>1. Please check the clamp first before start of clamp assembly to avoid wrong use of clamp.</p> <p>1. No wrong use of parts 2. No wrong use of tape 3. No damaged clamp 4. No wrong clamp position</p> <div><p>CLAMP ILLUSTRATION</p><p>GOOD</p><p>82711-48210 (B)</p><p>NG</p><p>82711-3F290 (B)</p></div>


Important reminders/Notes

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

1. No wrong use of parts
2. No wrong use of tape
3. No damaged clamp
4. No wrong clamp position

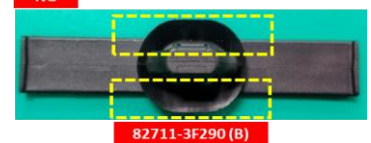
CLAMP ILLUSTRATION

GOOD



82711-48210 (B)

NG



82711-3F290 (B)

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PARTS:		1. Assy parts 2. Engineering Sample		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
10	n/a	Visual/By Two's Inspection	<div><div>ACTUAL PRODUCT</div></div>		<div>1. No skip checking during inspection.</div> <div>ENGINEERING SAMPLE</div> <div></div>
			<div><div><div><div>Engineering sample</div></div><div></div><div></div><div><div>Assembled parts</div></div><div></div></div><div>2. Check the connector lock condition, insertion, terminal and taping condition.</div><div>3. Check the presence of clamp attachment, taping condition and color of tape.</div><div>4. Check the Taping condition. Conduct slightly bending to avoid overlook of missing tape.</div><div>5. Check the Spot taping condition. (Pink Tape)</div><div><div>6. Check the terminal. Must no deformed terminal.</div></div></div>		

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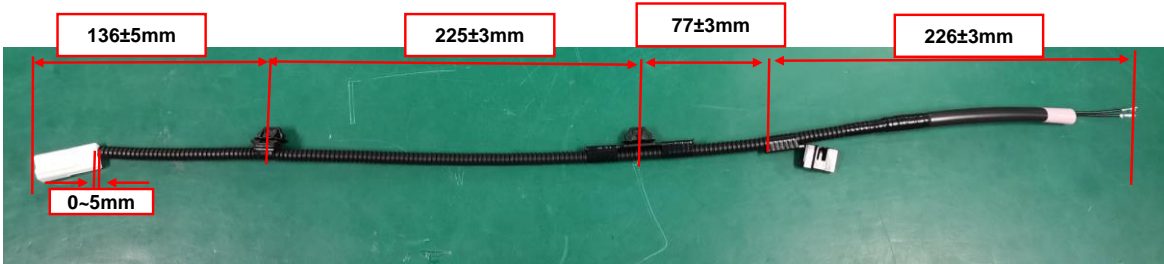
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PARTS:	1. Assy parts		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
11	n/a	Measurement		<p>Important reminders and note/s:</p> <p>1. Please use calibrated/verified measuring tape when getting the measurement.</p> <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 Owarimono Inspection</p> <p>1. No wrong dimension</p>

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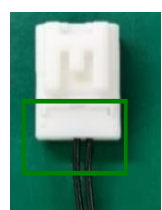
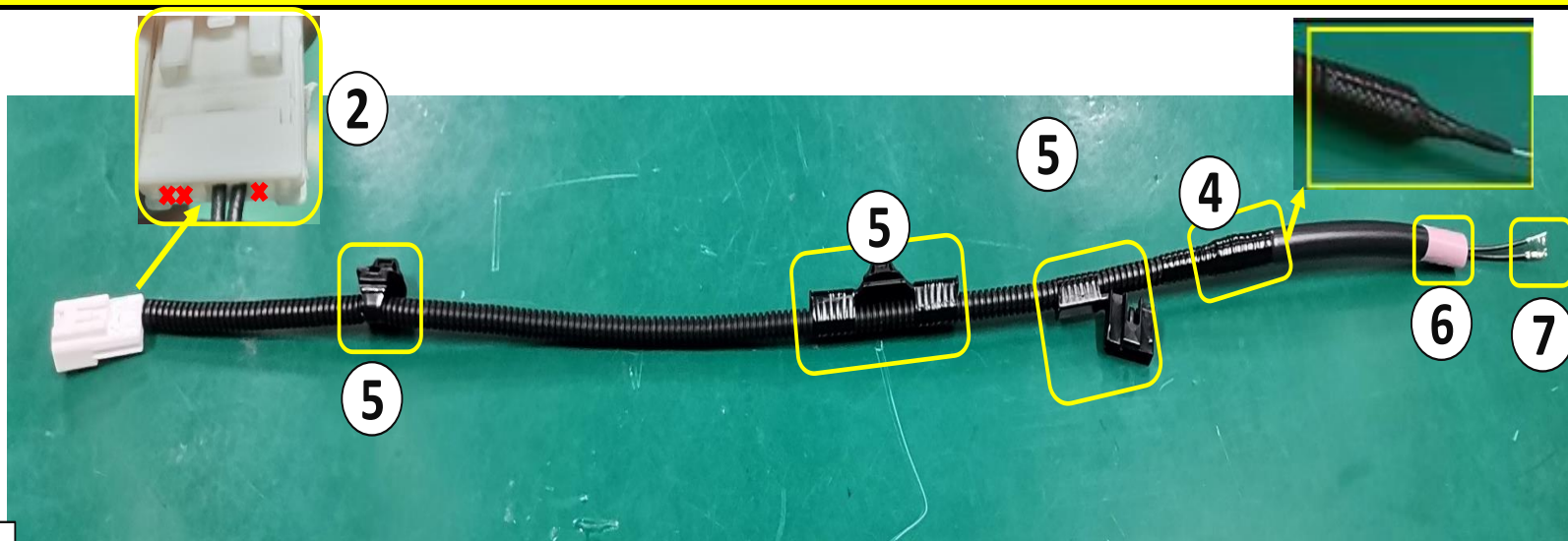
n/a

JIG:

n/a

QUALITY CHECKPOINTS

n/a

7L0152-7022**GOOD****GOOD****NO GOOD****NO GOOD**

① No **Unlock/Halflock Connector**

② No **Wrong Insert**

③ No **Terminal Backing Out**

④ No **Missing Tape**

⑤ No **Missing Clamp**

⑥ No **Missing Spot tape (pink)**

⑦ No **Deformed Terminal**

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