



WORK INSTRUCTION

TAPING ASSEMBLY PROCESS

Process Name/Title:

Model code/Part number:

311D

/

7L0154-7021

Customer: TRQSS

Car Model:

TOYOTA-RAV4

Purpose:

☐ PROTOTYPE☒ PRE-LAUNCH☐ MASSPRO

Effectivity Date:

February 16, 2024

Validity Date:

n/a

Document No.:

WI-ENG-PDE-806

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0

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PARTS:





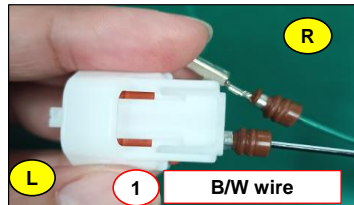
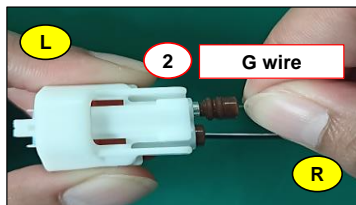
1. Connector 6189-0451 (W)

2. MR SW CP (AVSSf 0.3 G wires L=637±3mm; AVSSf 0.3 B/W wires L=637±3mm)




3. Black Corrugated tube (No slit) Ø7, L=510±5mm

JIG:

n/a

NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
1	Wire insertion to Black Corrugated tube (No Slit) Ø7, L=510±5mm	  <p>1. Get the Black Corrugated tube (No slit) Ø7, L=510±5mm using right hand then insert the wire using left hand.</p>	Safety Instruction Be sure to wear required personal protective equipment during operation (gloves, finger cots, etc.)	1. No wrong usage of parts 2. No deformed terminal
2	Wire insertion to Connector 6189-0451 (W)	 <p>CONNECTOR ORIENTATION</p>  <p>WIRE FACING</p>  <p>1. Hold the connector using left hand. Get the Black/White wire then insert to terminal slot 1 using right hand.</p>  <p>2. Get the Green wire and insert to terminal slot 2.</p>	Housekeeping 1. Maintain and always practice 5's. 2. Personal things on the workplace is prohibited. Keep it in your locker.	1. No wrong use of connector 2. No damaged connector 3. No wrong insertion 4. One by one insertion 5. No deformed terminal 6. No wrong wire facing Important reminder/Notes/: 1. Please hold the wire near terminal during insertion. 2. Make sure wires are properly inserted. Conduct Pull-Push-Pull-Push after insertion. Do not exert extra force. Document reference/s: 1. Please refer to WI-PRO-CNC-017 for Wire and Strip length tolerance. 2. Please refer to GL-PRO-ASY-029 for Pull-Push procedure.

Revision History

Eff. Date	Rev. No	Details of Change	Revised	Reviewed	Approved	Noted	Prepared by	Reviewed by	Approved by	Noted by
02/16/24	0	Initial issue.	M. Ariola	C. Villanueva	A. Arañes	n/a	 M. Ariola	 C. Villanueva	 A. Arañes	n/a
Est. Date:							February 16, 2024			

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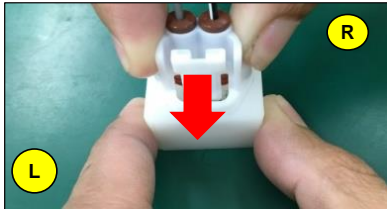







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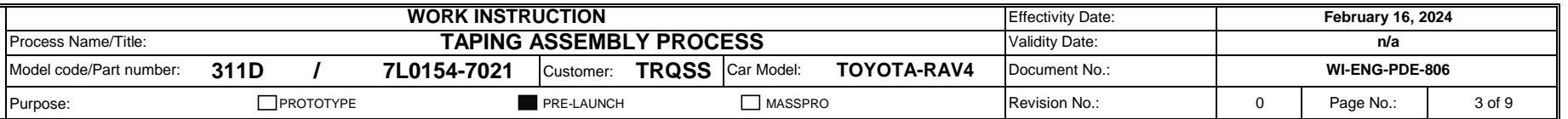
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PARTS:	1. Assy parts			JIG:	1. Locking jig		
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION			TOOLS/PPE	QUALITY POINTERS	
3	n/a	Connector lock	<div><div></div><div><p>1. Put the connector into locking jig using right hand. Then press to lock 2x using both hands.</p></div><div><div></div><div></div></div><div><p>2. Ensure that connector is in locked condition by slide touching the connector lock based on the sequence illustrated.</p></div><div><div><div></div><div><p>BEFORE PRESSING</p></div><div></div><div><p>AFTER PRESSING</p></div></div><div><div></div><div><p>GOOD</p></div><div></div><div><p>NG</p></div></div><div><p>Check the double lock deformation</p></div></div></div>			<div><p>LOCKING JIG</p></div> <div></div>	<p>Important reminders/Notes</p> <p>1. Manual locking may cause damaged connector lock</p> <p>1. Use the provided jig per model 2. No unclocked/half-locked connector.</p>

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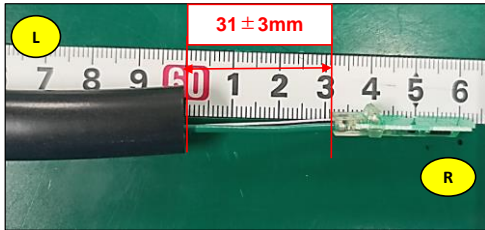
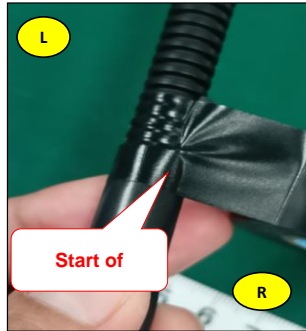
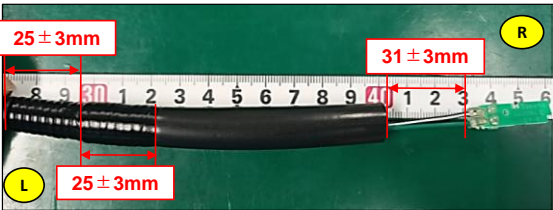

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PARTS:		1. Assy parts 2. Black VM tube (Sunprene) $\varnothing 11$, $L=97\pm 3\text{mm}$		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
5	Wire insertion to Black VM tube (Sunprene) $\varnothing 11$, $L=97\pm 3\text{mm}$	 <div>1. Get the Black VM tube (Sunprene) $\varnothing 11$, $L=97\pm 3\text{mm}$ using right hand then insert the hotmelted wires (B/W-G) using left hand.</div>		n/a	1. No wrong use of parts.
6	n/a Taping 3 Black Corrugated tube to VM tube (Sunprene)	  <div>1. Measure the end of VM tube (Sunprene) up to hotmelted wires $L=31\pm 3\text{mm}$.</div> <div>2. Hold the assy parts using left hand then measure the end of VM tube (Sunprene) tube up to the hotmelted wires $L=31\pm 3\text{mm}$.</div>  <div>3. After taping, check the measurement and taping condition.</div>		 <div>MEASURING TAPE</div>	Important reminders/Notes 1. Please use calibrated/verified measuring tape when fetting the measurement. 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

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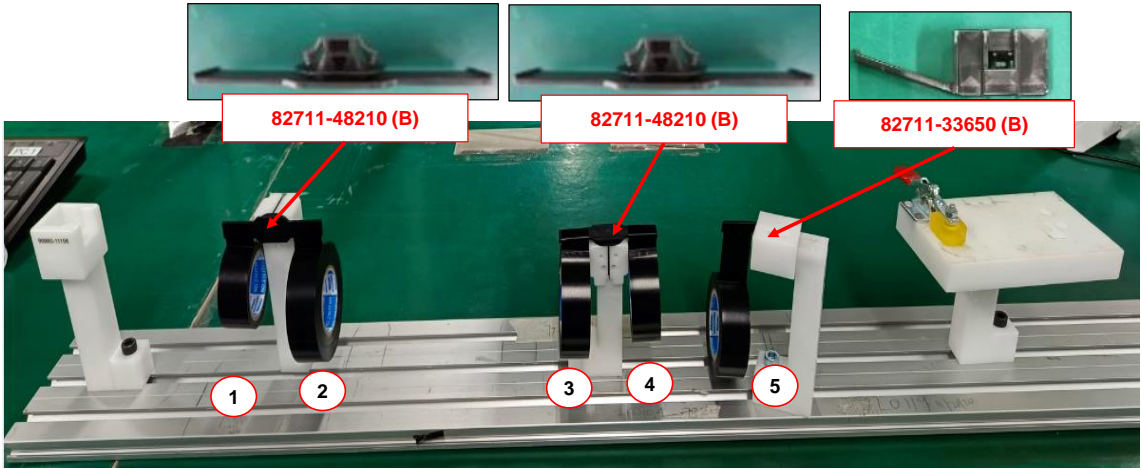

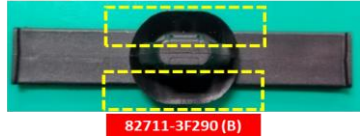
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PARTS:		1. Clamp 82711-48210 (B) [2pcs] 2. Clamp 82711-33650 (B)		3. Black tape [5pcs]	JIG:	1. Temporary clamp assembly jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION			TOOLS/PPE	QUALITY POINTERS
7	n/a	Clamp Setting	 <div>1. Get 1pc of clamp 82711-48210 (B) using right hand then set to Clamp location no. 1 and 2 using both hands.</div> <div>2. Get 1pc of clamp 82711-48210 (B) using right hand then set to Clamp location no. 3 and 4 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 3,2, 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 CLAMP ILLUSTRATION GOOD  82711-48210 (B) NG  82711-3F290 (B)

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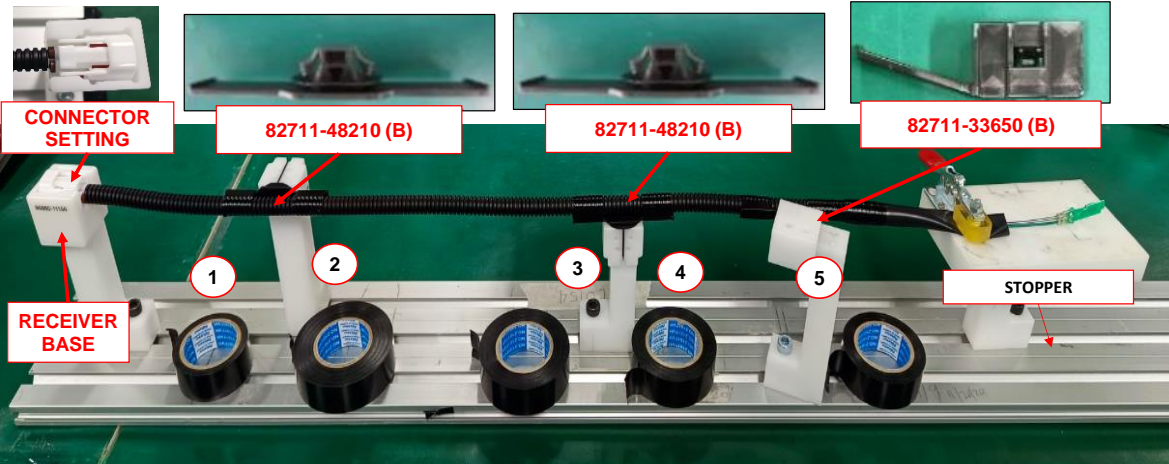

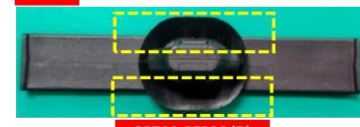
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PARTS:		1. Assy parts 2. Black tape [5pcs]		JIG:	6
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
8	n/a	Clamp Assembly	<div></div> <div><p>1. Put the assy into jig. (<i>See above picture for the correct setting</i>). First, set the connector 6189-0451 (W) to Receiver base 1. Continue to set the harness into jig. Last, set B/W-G wires together within stopper then press by toggle clamp.</p><p>2. Hold the tape on clamp location 1, make 3 windings of tape then cut the tape using both hands. Continue to clamp location 2.</p><p>3. Hold the tape on clamp location 2, make 3 windings of tape then cut the tape using both hands. Continue to clamp location 3.</p><p>4. Hold the tape on clamp location 3, make 3 windings of tape then cut the tape using both hands. Continue to clamp location 4.</p><p>5. Hold the tape on clamp location 4, make 3 windings of tape then cut the tape using both hands.</p><p>6. Conduct POINT CHECKING before removing the harness from jig.</p></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> <p>CLAMP ILLUSTRATION</p> <p>GOOD</p>  <p>82711-48210 (B)</p> <p>NG</p>  <p>82711-3F290 (B)</p>

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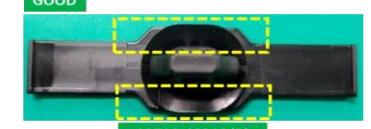

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PARTS:		1. Assy parts 2. Engineering sample		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
9	n/a	Visual/ By two's inspection			<p>1. No skip checking during inspection.</p> <p>ENGINEERING SAMPLE</p>  <p>CLAMP ILLUSTRATION</p> <p>GOOD</p>  <p>82711-48210 (B)</p> <p>NG</p>  <p>82711-3F290 (B)</p>

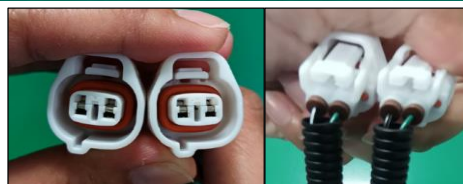


ACTUAL PRODUCTS

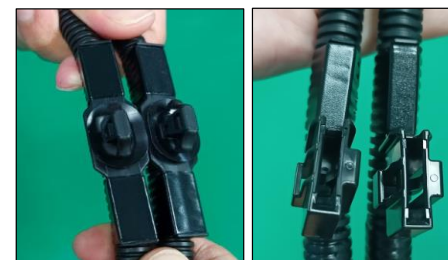
ASSEMBLED PARTS



ENGINEERING SAMPLE



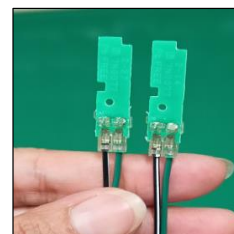
2. Check the **connector lock condition, insertion, and terminal.**



3. Check the **presence of all clamp attachment and taping condition.** Conduct **slightly bending of parts with wing-type clamp.**



4. Check the **taping condition.**



5. Check the **hotmelted wires (B/W-G) appearance.** Must be **no deformed terminal.**

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

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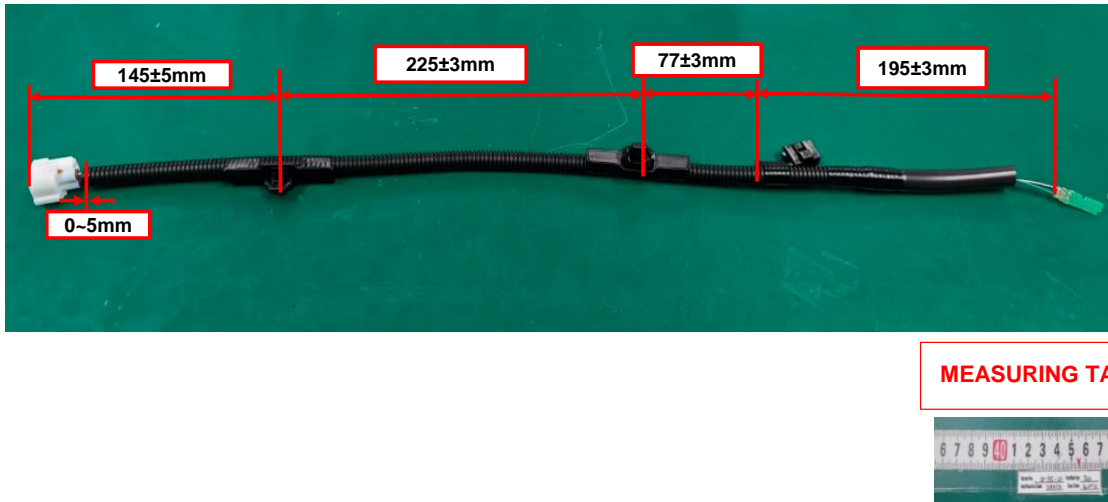
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PARTS:	1. Assy parts		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
10	n/a	Measurement	<div></div>	<p>1. No wrong dimension</p> <p>Important reminders/Note/s:</p> <p>1. Please use calibrated/verified measuring tape 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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PARTS: n/a

JIG:

n/a

QUALITY CHECKPOINTS

n/a

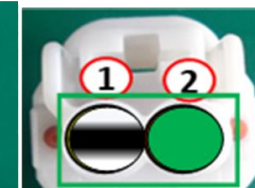
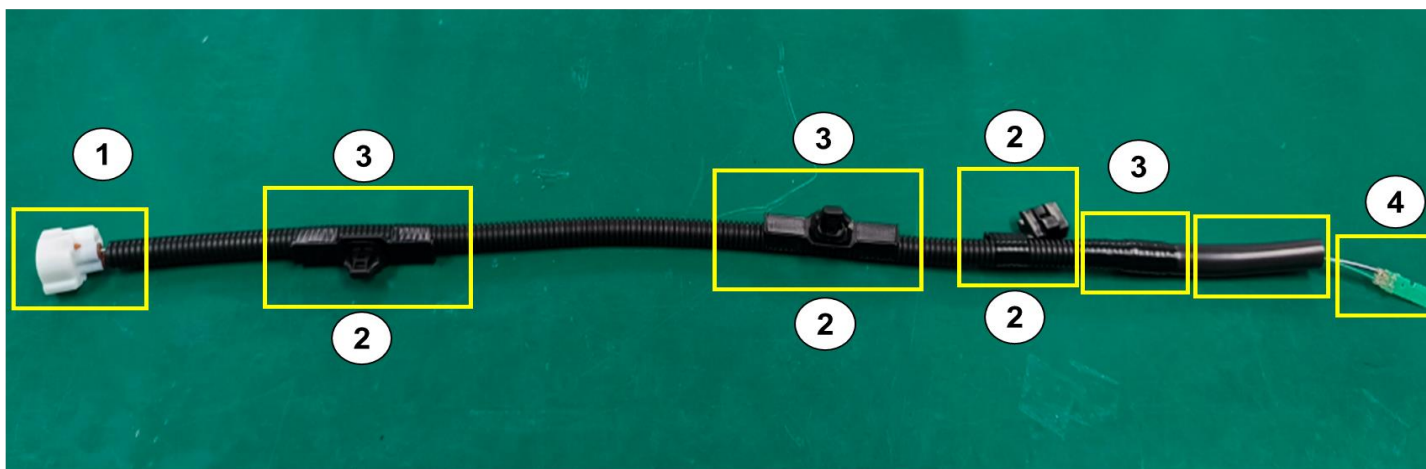
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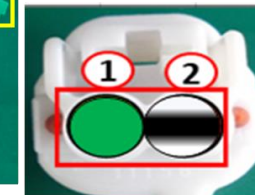
GOOD



NO GOOD



GOOD



NO GOOD

- ① No **WRONG INSERT**
No **UNLOCKED/HALFLOCKED**
NO **TBO**

- ② No **Missing Clamp**
③ No **Missing Tape**

- ④ No **DEFORMED**
TERMINAL/PCB

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