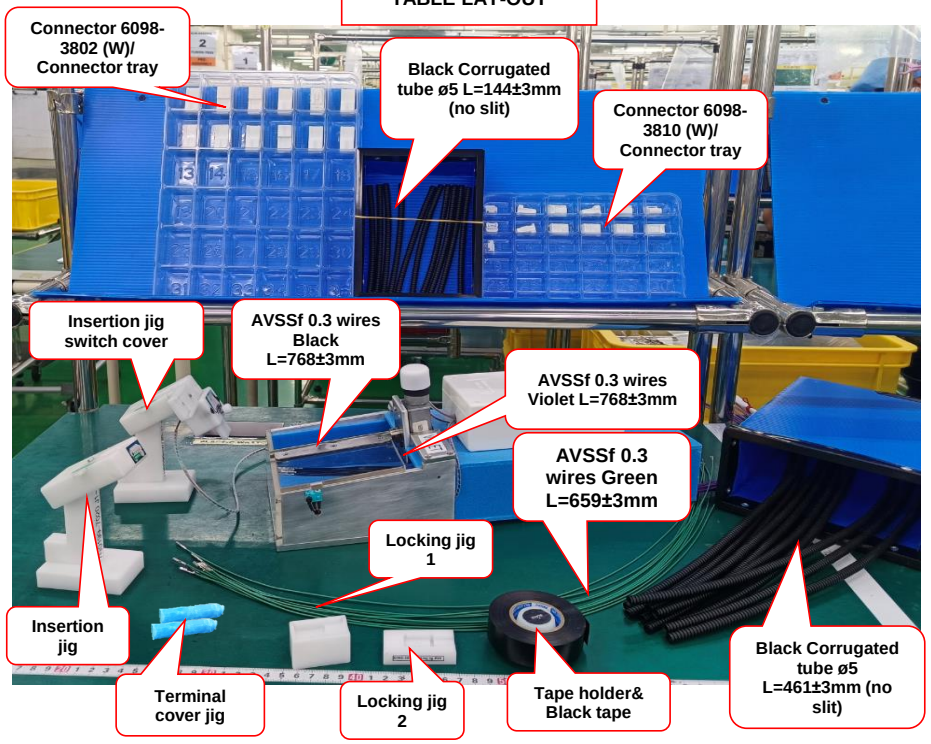
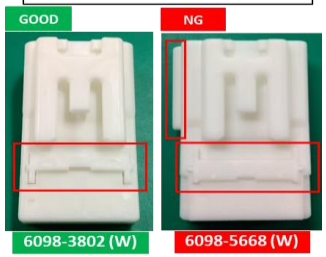
	WORK INSTRUCTION				Effectivity Date:	June 14, 2024	
	Process Name/Title:	TAPING ASSEMBLY PROCESS			Validity Date:	n/a	
	Model code/Part number: 310D / 7N0199-7020A	Customer: TRJ	Car Model: TOYOTA-RAV4		Document No.:	WI-ENG-PDE-913A	
	Purpose: ☐ PROTOTYPE ☐ PRE-LAUNCH ■ MASSPRO				Revision No.:	0	Page No.: 1 of 12

PARTS:	1. Connector 6098-3802 (W); AVSSf 0.3 wires Violet L=768±3mm; AVSSf 0.3 wires Black L=768±3mm; Black Corrugated tube ø5 L=144±3mm (no slit); Connector 6098-3810 (W); AVSSf 0.3 wires Green L=659±3mm; Connector 6098-3810 (W); Black Corrugated tube ø5 L=461±3mm (no slit)	JIG:	1. Insertion jig with & without switch cover 2. Terminal cover jig 3. Locking jig

NO.	PROCESS NAME		1 WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
1	P1	Table lay-out	TABLE LAY-OUT  	**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 missing parts/tools 2. No excess parts/tools ***Document references:*** ***1. Refer to WI-PRO-CNC-017 for Wire Strip lenght tolerance.*** CONNECTOR ILLUSTRATION 

Revision History

Eff. Date	Rev. No	Details of Change	Revised	Reviewed	Approved	Noted
06/14/24	1	Change purpose from Pre-launch to Masspro. Additional table lay-out; Visual Inspectios/ Quality Checkpoints.	M. Ariola	C.Villanueva	A. Arañes	n/a
06/06/24	0	Initial issue	M. Ariola	C.Villanueva	A. Arañes	n/a

Prepared by	Reviewed by	Approved by	Noted by
M. Ariola	C.Villanueva	A.Arañes	n/a
Est. Date:	June 6, 2024		

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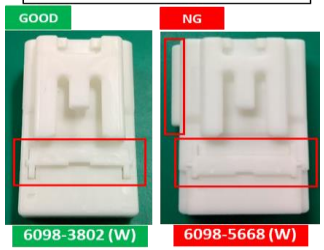
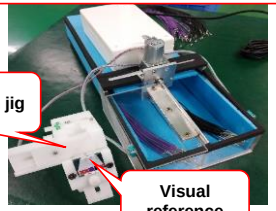
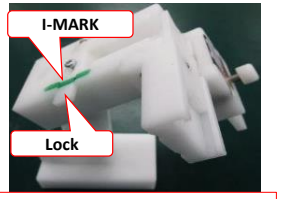
	Process Name/Title:	TAPING ASSEMBLY PROCESS		Validity Date:	n/a
	Model code/Part number: 310D / 7N0199-7020A	Customer: TRJ	Car Model: TOYOTA-RAV4	Document No.:	WI-ENG-PDE-913A
	Purpose: ☐PROTOTYPE ☐PRE-LAUNCH ■MASSPRO			Revision No.: 1	Page No.: 2 of 12

PARTS:	1. Connector 6098-3802 (W)	JIG:	1. Insertion jig with switch cover

NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
2	P1	Connector setting to insertion jig 6098-3802 (W)		n/a	1. No wrong use of connector 2. No damaged connector 3. No wrong insertion of wires 4. No loose insertion 5. One by one insertion 6. No deformed terminal 7. No wrong wire facing ***Important reminder's/Note:*** ***1. Please hold the wire near terminal.*** ***2. Make sure wires are properly inserted. Conduct Pull-Push-Pull-Push after insertion.*** ***Do not exert extra force.*** ***Document references:*** ***1. Refer to WI-PRO-CNC-017 for Wire Strip lenght tolerance.*** ***2. Refer to GL PRO-ASY-029 for pull-push-pull-push procedure*** CONNECTOR ILLUSTRATION 

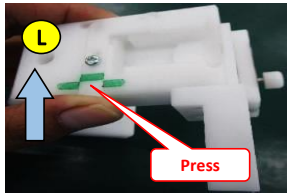
INSERTION JIG WITH SWITCH COVER



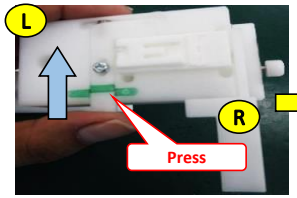


INSERTION JIG ORIENTATION

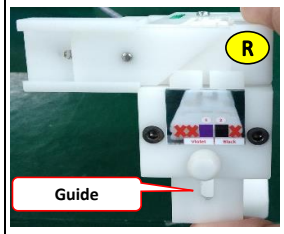
CONNECTOR ORIENTATION

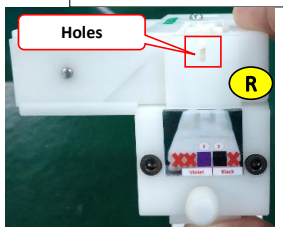


1. Press the lock of insertion jig using left thumb.



2. Insert the connector **6098-3802 (W)** into jig using right hand and release the lock.
Note: Follow the connector orientation.





3. Push the guide using left hand. The slot for **Violet wire** will be opened.

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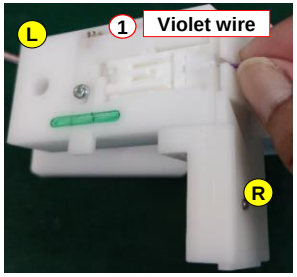
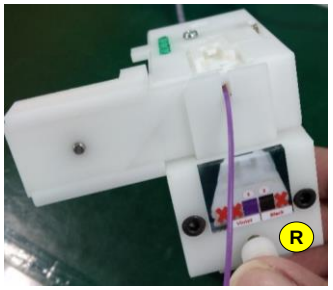
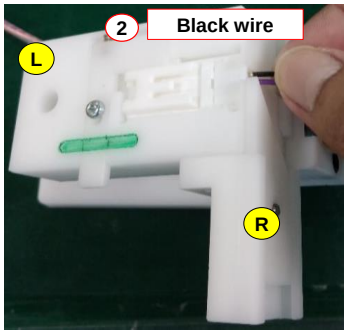
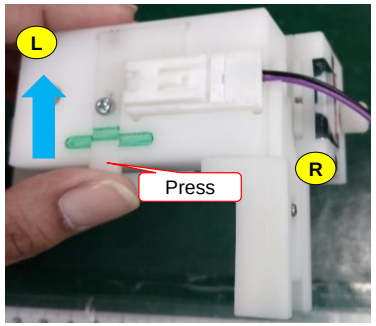
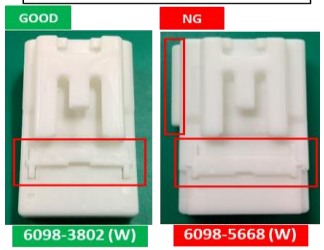
NBC	WORK INSTRUCTION			Effectivity Date:	June 14, 2024
	Process Name/Title:	TAPING ASSEMBLY PROCESS		Validity Date:	n/a
	Model code/Part number: 310D / 7N0199-7020A	Customer: TRJ	Car Model: TOYOTA-RAV4	Document No.:	WI-ENG-PDE-913A
	Purpose: ☐PROTOTYPE ☐PRE-LAUNCH ■MASSPRO			Revision No.:	1 Page No.: 3 of 12

PARTS:	1. AVSSf 0.3 wires Violet L=768±3mm 2. AVSSf 0.3 wires Black L=768±3mm	JIG:	1. Insertion jig with switch cover

NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
3	P1	Wire insertion to connector 6098-3802 (W)	 Wire  1. Hold the insertion jig using left hand. Get the Violet wire then insert to terminal slot **1** using right hand.  2. Press the button using right thumb. The slot for Black wire will be opened.  3. Get the Black wire then insert to terminal slot **2** using right hand.  4. After insertion, push the lock using left thumb and then hold the wires and gently pull out the connector from jig using right hand.	n/a	1. No wrong use of connector 2. No damaged connector 3. No wrong insertion of wires 4. No loose insertion 5. One by one insertion 6. No deformed terminal 7. No wrong wire facing ***Important reminder's/Note:*** ***1. Please hold the wire near terminal.*** ***2. Make sure wires are properly inserted. Conduct Pull-Push-Pull-Push after insertion.*** ***Do not exert extra force.*** ***Document references:*** ***1. Refer to WI-PRO-CNC-017 for Wire Strip lenght tolerance.*** ***2. Refer to GL PRO-ASY-029 for pull-push-pull-push procedure*** CONNECTOR ILLUSTRATION 

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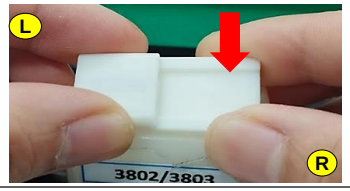
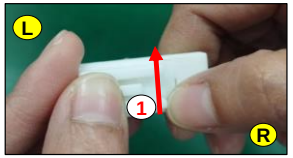
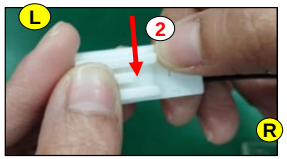
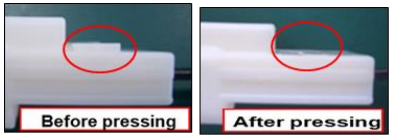
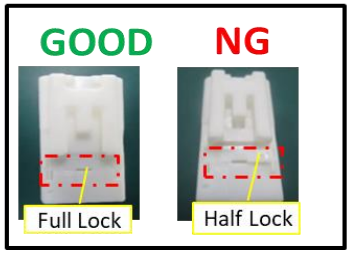
	Model code/Part number: 310D / 7N0199-7020A	Customer: TRJ	Car Model: TOYOTA-RAV4		Document No.:	WI-ENG-PDE-913A	
	Purpose: ☐ PROTOTYPE	☐ PRE-LAUNCH	■ MASSPRO		Revision No.:	1	Page No.: 4 of 12

PARTS:	1. Assy Parts	JIG:	1. Locking jig

NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
4	P1	Connector lock	 1. Load the connector into the jig holding both side of the connector, tip first.  2. Press the lower part of connector to fully insert into the locking jig. Right thumb-Lower Left thumb-middle 3. Press the lower parts of connector using right hand while left hand holding the middle. Right thumb-upper Left thumb-middle 4. Press the upper part of connector using right hand while left hand holding the middle. Right thumb-middle Left thumb-middle 5. Lift then press the connector in the middle using left and right hand.   6. Ensure that connector is in locked condition by slide touching the connector lock based on the sequence illustrated.	LOCKING JIG 	1. Use the provided jog per model 2. No unlocked/half-locked connector ***Important reminders/Note/s:*** ***1. Manual locking jig may caused damaged connector lock.*** ***Document references:*** ***1. Refer to GL-PRO-ASY-017 for the verification of connector lock.***  

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	WORK INSTRUCTION			Effectivity Date:	June 14, 2024	
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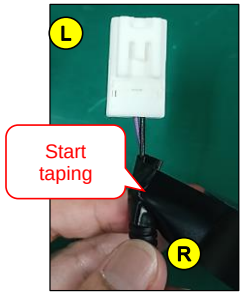
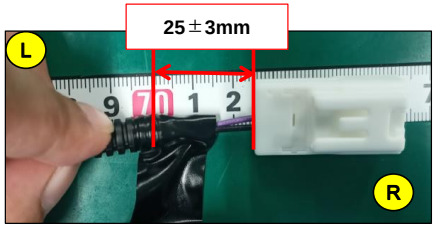
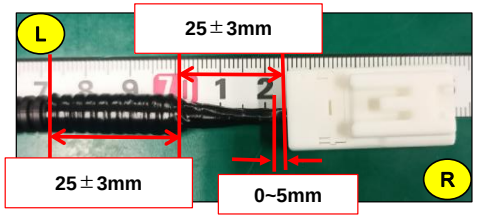
	Model code/Part number: 310D / 7N0199-7020A	Customer: TRJ	Car Model: TOYOTA-RAV4	Document No.:	WI-ENG-PDE-913A	
	Purpose: ☐ PROTOTYPE ☐ PRE-LAUNCH ■ MASSPRO			Revision No.: 1	Page No.:	5 of 12

PARTS:	1. Assy parts 2. Black tape	JIG:	n/a

NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
5	P1	Taping 1 Black Corrugated tube to wire near connector	 1. Get the **Black tape**, hold the assy parts using left hand then start taping using both hands.  2. Measure the end of COT up to edge of connector **25±3mm then continue the taping process using both hands.**  3. After taping, check the measurement and taping condition.	**MEASURING TAPE** 	***Important reminders/Notes/:*** ***1. Please use calibrated/verified measuring tape when getting the measurement.*** 1. No loose tape 2. No flip-out tape 3. No peel-off tape 4. No wrong use of tape 5. No wrong dimension

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	Model code/Part number: 310D / 7N0199-7020A	Customer: TRJ	Car Model: TOYOTA-RAV4		Document No.:	WI-ENG-PDE-913A		
	Purpose: ☐ PROTOTYPE	☐ PRE-LAUNCH	■ MASSPRO		Revision No.:	1	Page No.:	6 of 12

PARTS:	1. Assy parts 2. Black Corrugated tube ø5 L=144±3mm (no slit)	JIG:	1. Terminal cover jig

NO.	PROCESS NAME		⚠1 WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
6	P1	Wire Insertion to Black Corrugated tube ø5 L=144±3mm (no slit)	 1. Combine the **B-V wires** using both hands. Get the terminal cover jig using right hand then insert to **B-V wires** both hands. 2. Get the Corrugated tube **ø5, L=144 ±3mm** using right hand then insert to **B-V wires** using both hands. 3. After insertion, remove the terminal cover jig using right hand.	**Terminal cover Jig** 	1. No wrong usage of parts. 2. No deformed terminal

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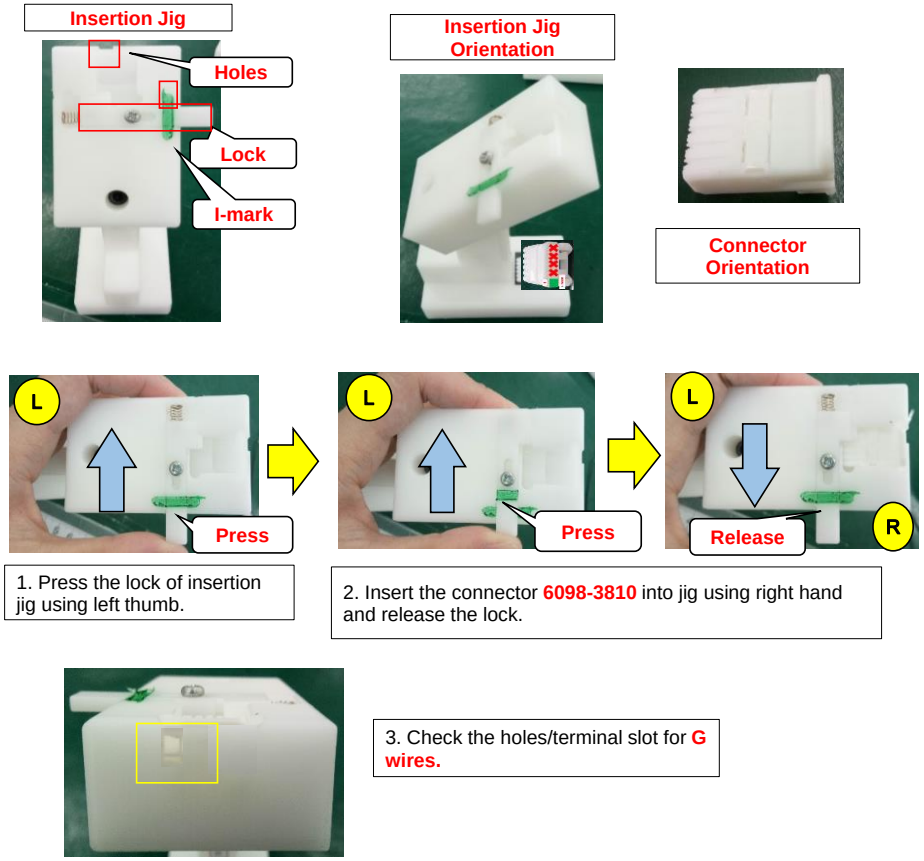
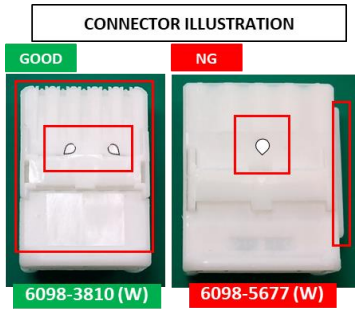
	Model code/Part number: 310D / 7N0199-7020A	Customer: TRJ	Car Model: TOYOTA-RAV4	Document No.:	WI-ENG-PDE-913A
	Purpose: ☐ PROTOTYPE ☐ PRE-LAUNCH ■ MASSPRO			Revision No.: 1	Page No.: 7 of 12

PARTS:	1. Connector 6098-3810 (W)	JIG:	1. Insertion jig

NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
7	P1	Connector setting to insertion jig 6098-3810(W)	 1. Press the lock of insertion jig using left thumb. 2. Insert the connector **6098-3810** into jig using right hand and release the lock. 3. Check the holes/terminal slot for **G wires.**	n/a	1. Use provided jig per model 2. No wrong usage of parts 3. No wrong orientation of connector 4. No damaged connector 

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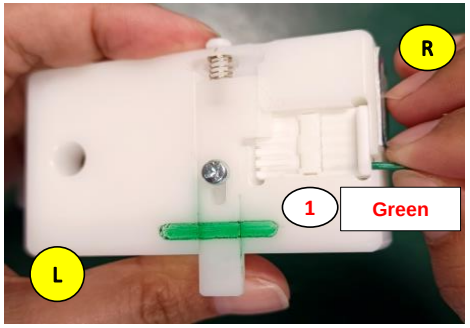
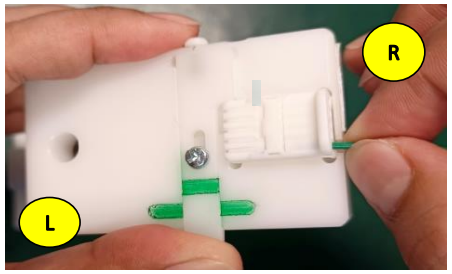
	Model code/Part number:	310D / 7N0199-7020A	Customer: TRJ	Car Model: TOYOTA-RAV4	Document No.:	WI-ENG-PDE-913A		
	Purpose:	☐ PROTOTYPE	☐ PRE-LAUNCH	■ MASSPRO	Revision No.:	1	Page No.:	8 of 12

PARTS:	1. Connector 6098-3810 (W) 2. AVSSf 0.3 wires Green L=659±3mm	JIG:	n/a

NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
8	P1	Wire insertion to Connector 6098-3810 (W)	 CONNECTOR ORIENTATION WIRE FACING  1. Get the **Green wire** and insert to **Slot 1** of connector using right hand. Conduct **2x** push pull after wire insertion.  2. After insertion, push the lock using left thumb and then hold the wires and gently pull out the connector from jig using right hand.	n/a	1. No wrong use of connector 2. No damaged connector 3. No wrong insertion of wires 4. No loose insertion 5. One by one insertion 6. No deformed terminal 7. No wrong wire facing ***Important reminder's/Note:*** ***1. Please hold the wire near terminal.*** ***2. Make sure wires are properly inserted. Conduct Pull-Push-Pull-Push after insertion.*** ***Do not exert extra force.*** ***Document references:*** ***1. Refer to WI-PRO-CNC-017 for Wire Strip lenght tolerance.*** ***2. Refer to GL PRO-ASY-029 for pull-push-pull-push procedure***

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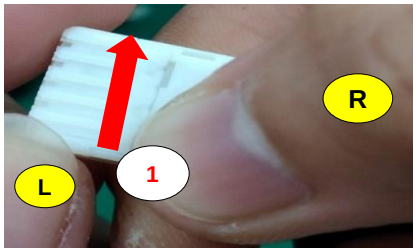
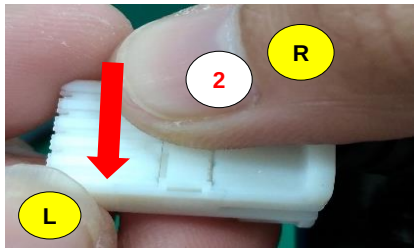
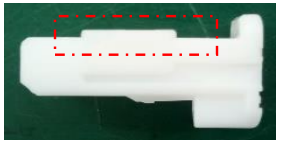
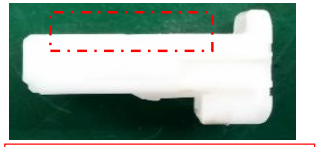
	Model code/Part number:	310D / 7N0199-7020A	Customer: TRJ	Car Model: TOYOTA-RAV4	Document No.:	WI-ENG-PDE-913A		
	Purpose:	☐ PROTOTYPE	☐ PRE-LAUNCH	■ MASSPRO	Revision No.:	1	Page No.:	9 of 12

PARTS:	1. Assy parts			JIG:	1. Locking jig
NO.	**PROCESS NAME**		**WORK PROCEDURE/ ILLUSTRATION**	**TOOLS/PPE**	**QUALITY POINTERS**
9	P1	Connector lock	 1. Put the connector into locking jig using right hand then press **2x** using both hands. Touch the connector lock to confirm if properly locked.   2. Ensure that connector is in locked condition by slide touching the connector lock based on the sequence illustrated.  **Before Pressing**  **After Pressing**	**LOCKING JIG** 	***Important reminders/Note/s:*** ***1. Manual locking may cause damaged connector lock*** 1. No wrong usage of parts 2. No deformed terminal

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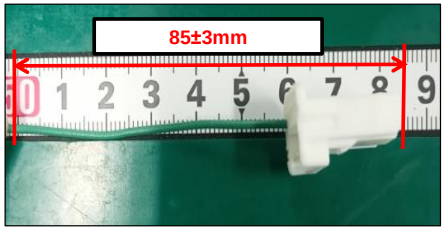
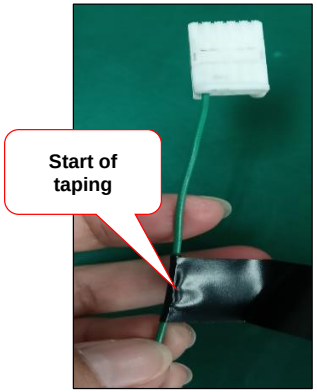
	WORK INSTRUCTION				Effectivity Date:	June 14, 2024		
	Process Name/Title:	TAPING ASSEMBLY PROCESS			Validity Date:	n/a		
	Model code/Part number:	310D / 7N0199-7020A	Customer: TRJ	Car Model: TOYOTA-RAV4	Document No.:	WI-ENG-PDE-913A		
	Purpose:	☐ PROTOTYPE	☐ PRE-LAUNCH	■ MASSPRO	Revision No.:	1	Page No.:	10 of 12

PARTS:	1. Assy parts 2. Black tape	JIG:	n/a

NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
10	P1	Half wrap taping	 1. Hold the wire using left hand, Measure from wire up to end of connector L=**85±3mm** using both hands.  2. Get the **Black tape**. Start pre-taping make **1 winding** of tape then conduct **1/2 shifting** until you reach the edge of the connector. Make **2 windings** of tape before end of tape. ***(Taping must be 1/2 shifting)*** 3. After taping, check the measurement and tape condition.	**MEASURING TAPE** 	1. No loose tape 2. No flip-out tape 3. No peel-off tape 4. No wrong use of tape 5. No wrong dimension

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	WORK INSTRUCTION				Effectivity Date:	June 14, 2024		
	Process Name/Title:	TAPING ASSEMBLY PROCESS			Validity Date:	n/a		
	Model code/Part number:	310D / 7N0199-7020A	Customer: TRJ	Car Model: TOYOTA-RAV4	Document No.:	WI-ENG-PDE-913A		
	Purpose:	☐ PROTOTYPE	☐ PRE-LAUNCH	■ MASSPRO	Revision No.:	1	Page No.:	11 of 12

PARTS:	1. Assy parts 2. Black Corrugated tube ø5 L=461±3mm (no slit)	3. Black tape	JIG:	1. Terminal cover jig

NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
11	P1	Wire Insertion to Black Corrugated tube ø5 L=461±3mm (no slit)	 1. Combine the **B-V-G wires** using both hands. Get the terminal cover jig using right hand then insert to **B-V-G wires** both hands. 2. Get the Corrugated tube **ø5, L=461±3mm** using right hand then insert to **B-V-G wires** using both hands. 3. After insertion, remove the terminal cover jig using right hand.	**Terminal cover Jig** 	1. No wrong usage of parts. 2. No deformed terminal

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NBC	WORK INSTRUCTION			Effectivity Date:	June 14, 2024
	Process Name/Title:	TAPING ASSEMBLY PROCESS		Validity Date:	n/a
	Model code/Part number: 310D / 7N0199-7020A	Customer: TRJ	Car Model: TOYOTA-RAV4	Document No.:	WI-ENG-PDE-913A
	Purpose: ☐ PROTOTYPE ☐ PRE-LAUNCH ■ MASSPRO			Revision No.: 1	Page No.: 12 of 12

PARTS:	1. Assy parts	JIG:	n/a

1 VISUAL INSPECTION/ QUALITY CHECKPOINTS

TAPING - P1 | 7N0199-7020A

1 2 No **Unlock/half-locked connector**

3 4 No **wrong insert**

5 No **Deformed terminal**

6 No **Terminal Backing out**

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