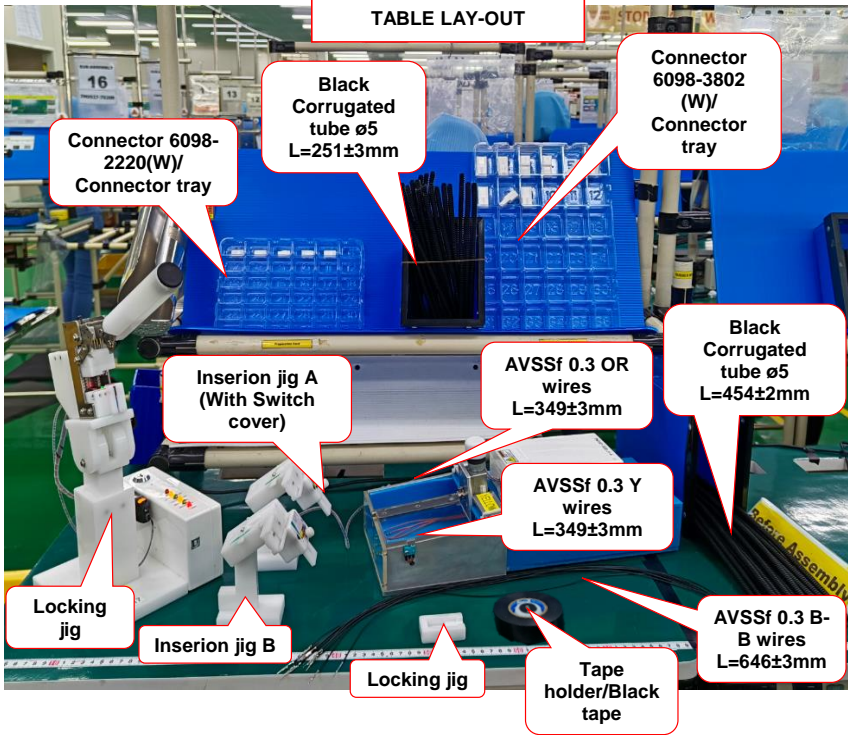
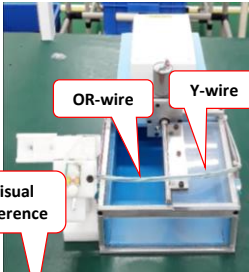
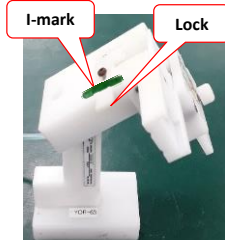
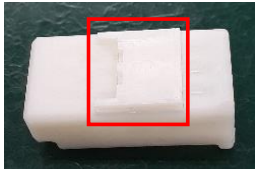
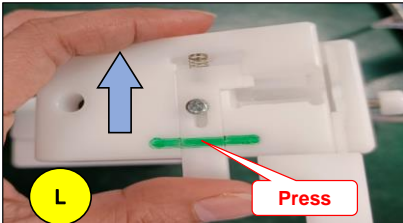
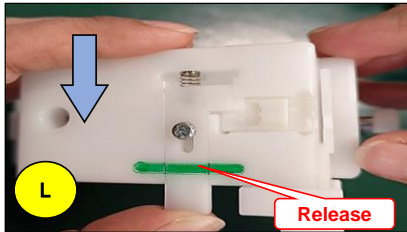
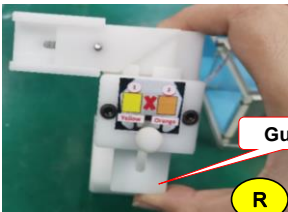
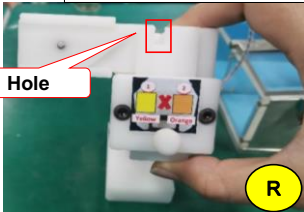
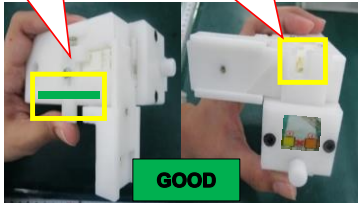
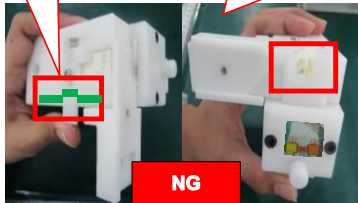
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	Process Name/Title:				Validity Date:	n/a	
	Model code/Part number: 310D / 7N0197-7020		Customer: TRJ	Car Model: TOYOTA-RAV4	Document No.:	WI-ENG-PDE-778A	
	Purpose: <input type="checkbox"/> PROTOTYPE <input type="checkbox"/> PRE-LAUNCH <input checked="" type="checkbox"/> MASSPRO				Revision No.:	1	Page No.: 1 of 12

PARTS:		1. Connector 6098-2220(W); Black Corrugated tube ø5 L=251±3mm; Connector 6098-3802 (W); Black Corrugated tube ø5 L=454±2mm; AVSSf 0.3 OR wires L=349±2mm; AVSSf 0.3 Y wires L=349±2mm; AVSSf 0.3 B-B wires L=646±3mm			JIG:	1. Insertion jig with switch cover 2. Insertion jig 3. Locking jig	
NO.	PROCESS NAME	1 WORK PROCEDURE/ ILLUSTRATION			TOOLS/PPE	QUALITY POINTERS	
1	P1 Table lay-out	<div> <div>TABLE LAY-OUT</div>  </div>			<div> <p>Safety Instruction Be sure to wear prescribed personal protective equipment during operation (gloves, finger cots, etc.)</p> <p>Housekeeping 1. Maintain and always practice 5's. 2. Personal things on the workplace is prohibited. Keep it in your locker.</p> <p>Alert level For any trouble, inform the Assembly Assistant Supervisor or Line Leader for immediate corrective action.</p> </div>	<p>Document reference/s: 1. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance</p> <p>1. No missing parts/tools 2. No excess parts/tools</p>	

Revision History						Prepared by	Reviewed by	Approved by	Noted by
03/01/24	1	Change purpose from Pre-launch to Masspro. Additional table lay-out and Inclusion of Quality checkpoints. Improve Work procedure/Illustration on pages 2 to 10. Additional Work procedure/Illustration and notes on page 4 as countermeasure for the customer claim(Broken lock of Connector 6098-2220 (W)).				M.A riola	C. Villanueva	A. Arañes	n/a
01/05/24	0	Initial issue				M.A riola	C. Villanueva	A. Arañes	n/a
Eff. Date	Rev. No	Details of Change				Revised	Reviewed	Approved	Noted

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PARTS:	1. Connector 6098-2220(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 6098-2220(W)	<div><div><div>INSERTION JIG ILLUSTRATION</div></div><div><div>I-mark</div><div>Lock</div></div><div><div>CONNECTOR ORIENTATION</div></div></div> <div><div><div><div>Visual reference</div></div><div><div>1. Press the lock of insertion jig using left thumb.</div></div></div><div><div><div><div>Release</div></div><div><div>2. Insert the connector 6098-2220 (W) into jig using right hand and release the lock. Note: Follow the connector orientation.</div></div></div><div><div><div><div>Guide</div></div><div><div>Hole</div></div><div><div>3. Push the guide using left hand. The slot for Y wire will be opened.</div></div></div></div></div></div>	N/A	<div><div>Connector Orientation Illustration</div><div><div>I-mark is align</div><div>1 hole is open</div></div><div>GOOD</div><div><div>I-mark is not align</div><div>All holes were open</div></div><div>NG</div><div><div>1. Use the provided jig per model</div><div>2. No wrong orientation of connector</div><div>3. No wrong use of connector</div><div>4. No damaged connector</div></div></div>

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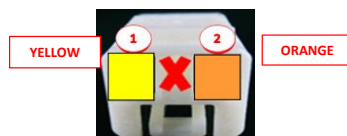
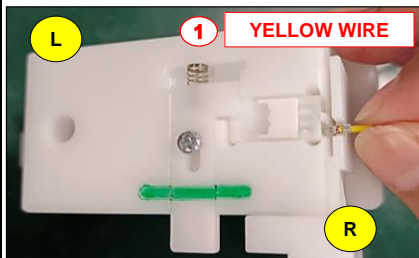
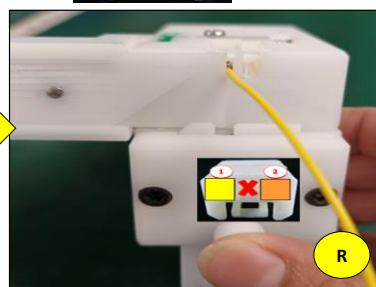
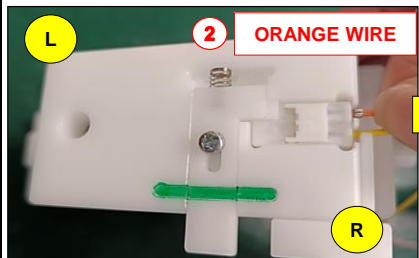
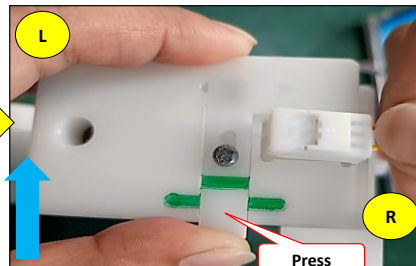
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PARTS:		1. AVSSf 0.3 Y L=713±3mm 2. AVSSf 0.3 OR L=713±3mm		JIG:	1. Insertion jig with switch cover
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
3	P1	<div><div><p>WIRE FACING</p></div><div><p>YELLOW</p><p>ORANGE</p></div><div><p>1 YELLOW WIRE</p><p>L</p><p>R</p></div><div><p>2 Press the button using right thumb the slot for OR wire will be opened.</p><p>R</p></div><div><p>2 ORANGE WIRE</p><p>L</p><p>R</p></div><div><p>Press</p><p>L</p><p>R</p></div><div><p>1. Hold the insertion jig using left hand. Get the Y wire and insert to connector using right hand. Conduct 2x pull-push after insertion.</p></div><div><p>2. Press the button using right thumb the slot for OR wire will be opened.</p></div><div><p>3. Get the OR wire and insert to connector using right hand.</p></div><div><p>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.</p></div></div>		N/A	<p>1. No loose insertion 2. No wrong insertion 3. One by one insertion 4. No deform terminal 5. No wrong wire facing</p> <p>Important reminders/Note/s: 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.</p> <p>Document references: 1. Refer to GL-PRO-ASY-029 for Pull-Push procedure. 2. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance</p>

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PARTS:	1. Assy parts		JIG:	1. Locking jig
NO.	PROCESS NAME	<div><div><div></div></div>WORK PROCEDURE/ ILLUSTRATION</div>	TOOLS/PPE	<div><div><div></div></div>QUALITY POINTERS</div>
4	P1	Connector lock	<div><div><div>CONNECTOR RETAINER ILLUSTRATION</div><div>SIDE VIEW</div><div><div><div><div></div></div><div>GOOD</div></div><div><div><div></div></div><div>NG</div></div></div><div><div>1. Check the Retainer lock of connector before insertion to locking jig. <i>Note: Must be NO half-locked condition prior connector locking.</i></div></div></div></div>	<div><div><div>1. Please ensure that Connector lock/retainer will not touch or hit by any object prior insertion into locking jig to avoid half-lock connector. 2. Maintain 10mm proper holding of wire to connector 3. Connector must be fully inserted to connector slot. 4. Make sure no offset setting before locking process. 5. No wrong setting of connector. 6. No damaged connector lock 7. No unlocked/ half-locked connector.</div><div><div>Important reminders/Note/s:</div><div><div>1. Incomplete locking process will alarm the jig. 2. No retainer in connector cannot proceed. 3. If encountered abnormality, STOP and immediately CALL the attention of the leader. WAIT for further instruction and continue the process.</div></div></div></div></div>
			<div><div><div><div><div><div></div><div>HANDLE</div></div><div><div><div>Sensor</div></div></div></div><div><div><div>Sensor</div></div><div><div><div>6098-2220</div><div>RETAINER SENSOR</div></div></div></div><div><div><div>L</div><div>6098-2220</div><div>STEP 1</div></div></div><div><div><div>L</div><div>6098-2220</div><div>STEP 2</div></div></div></div><div><div>2. Hold the assy parts using left hand and insert into connector locking jig based on the direction of arrow. Make sure the connector touch the sensor. Sound will be heard if properly lock. <i>NOTE: CONNECTOR LOCKING JIG WILL NOT FUNCTION IF CONNECTOR NOT REACH THE SENSOR.</i></div></div></div></div>	

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PARTS:		1. Assy parts		JIG:	1. Locking jig
NO.	PROCESS NAME	⚠ WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	⚠ QUALITY POINTERS
4	P1 Connector lock (Continuation)	<div><div></div><div></div><div><p>3. Hold the handle of the connector locking jig using right hand then gently pull down and bring back to original position after locking. Note: Pull down one time only.</p></div></div>			<div><p>1. Please ensure that Connector lock/retainer will not touch or hit by any object prior insertion into locking jig to avoid half-lock connector.</p><p>2. Maintain 10mm proper holding of wire to connector</p><p>3.Connector must be fully inserted to connector slot.</p><p>4. Make sure no offset setting before locking process.</p><p>5.No wrong setting of connector.</p><p>6. No damaged connector lock</p><p>7. No unlocked/ half-locked connector</p></div> <div><p>Important reminders/Note/s:</p><p>1. Incomplete locking process will alarm the jig.</p><p>2. No retainer in connector cannot proceed.</p><p>3. If encountered abnormality, STOP and immediately CALL the attention of the leader. WAIT for further instruction and continue the process.</p></div>
		<div><div></div><div></div><div><p>4. Remove the locked connector using left hand based on the illustration, follow the direction of arrow.</p></div></div>			
		<div><div></div><div></div><div></div><div></div><div><p>5. Ensure that connector is in locked condition by slide touching the connector lock based on the sequence illustrated.</p></div></div>			

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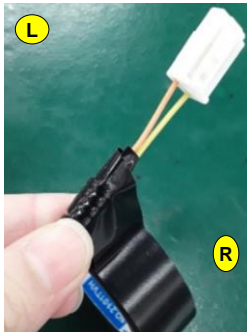
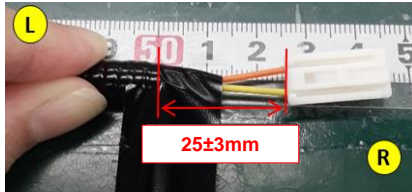
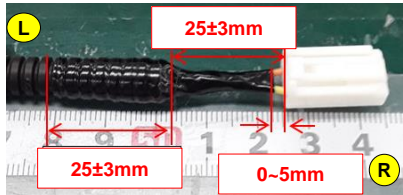

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PARTS:		1. Assy parts 2. Black Corrugated tube $\phi 5$ L=251 \pm 3mm		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
5		Wire insertion to Black Corrugated tube $\phi 5$ L=251 \pm 3mm	 <p>1. Get the Black Corrugated tube $\phi 5$ L=251\pm3mm using left hand then insert the Y-OR wires using right hand.</p>	n/a	1. No wrong use of parts 2. No deformed terminal
6	P1	Taping 1 Black Corrugated tube to Wire near Connector	 <p>1. hold the assy parts using left hand. Get the black tape using right hand then start pre-taping.</p>  <p>2. Measure from COT to Connector 25 \pm3mm using both hands and continue the taping process.</p>  <p>3. After taping, check the measurement and taping condition.</p>	 <p>MEASURING TAPE</p>	1. No flip-out tape 2. No peel-off tape 3. No loose tape 4. No missing tape 5. No wrong dimension 6. No wrong use of tape Important reminders/Note/s: 1. Please use calibrated/verified measuring tape when getting the measurement.

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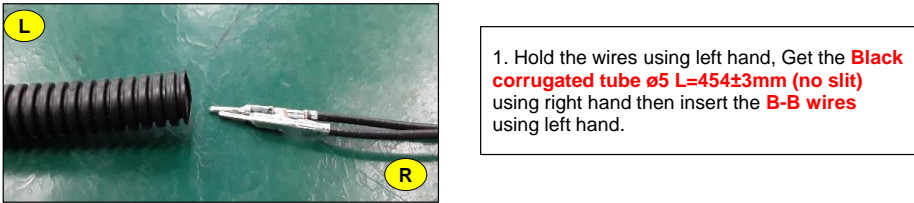
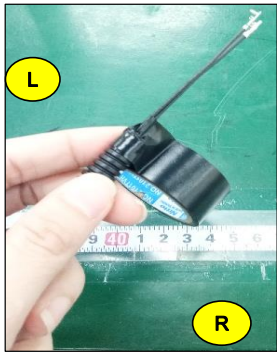
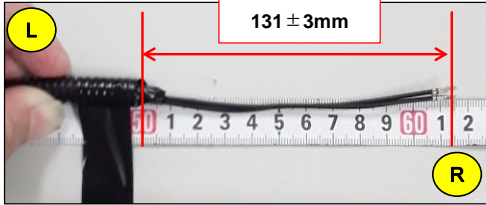
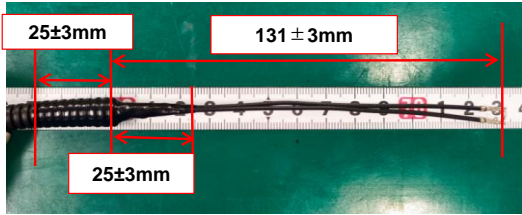

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PARTS:	1. Assy parts 2. Black tape 3. Black corrugated tube $\phi 5$ L=454 \pm 3mm (no slit) 4. AVSSf 0.3 B-B wires L=646 \pm 3mm			JIG:	n/a
NO.	PROCESS NAME	1 WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS	
7	Wire Insertion to Black corrugated tube $\phi 5$ L=454 \pm 3mm (no slit)			1. No flip-out tape 2. No peel-off tape 3. No loose tape 4. No missing tape 5. No wrong dimension 6. No wrong use of tape	
8	P1 Taping 2 Black Corrugated tube to Wire near terminal	  		Important reminders/Note/s: 1. Please use calibrated/verified measuring tape when getting the measurement. 1. No flip-out tape 2. No peel-off tape 3. No loose tape 4. No missing tape 5. No wrong dimension 6. No wrong use of tape	

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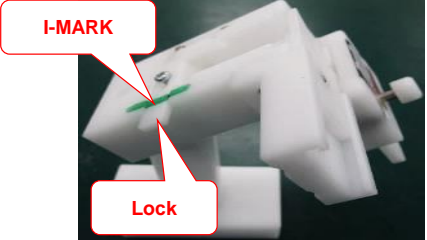


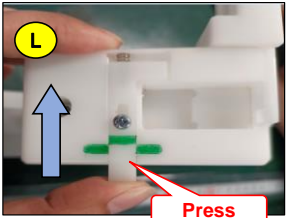
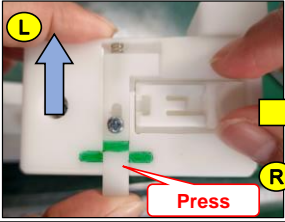
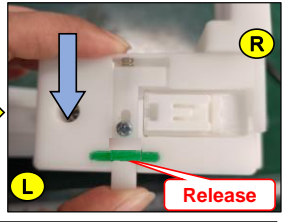
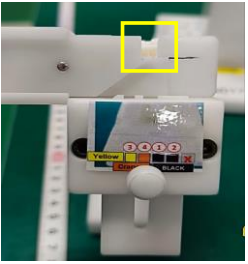


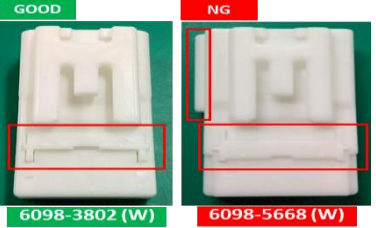
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PARTS:		1. Connector 6098-3802 (W)		JIG:	1. Insertion jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
9	P1	<p>Connector setting to insertion jig 6098-3802 (W)</p>        <p>1. Press the lock of insertion jig using left hand.</p> <p>2. Get the connector using then Insert the connector 6098-3802 (W) using right hand into jig using and release the lock. Note: Follow the connector orientation.</p> <p>3. Do not push the lower wire guide upward. Slot for 2 Black wires must be open.</p>		n/a	<p>1. Use the provided jig per model 2. No wrong orientation of the connector. 3. No wrong use of connector 4. No damaged connector.</p>   <p>GOOD</p> <p>NG</p>  <p>GOOD</p> <p>NG</p> <p>6098-3802 (W)</p> <p>6098-5668 (W)</p>

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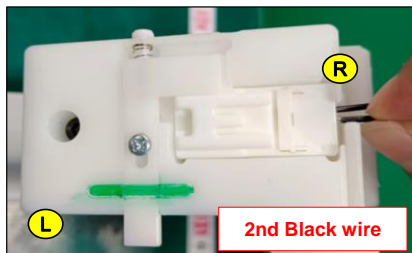
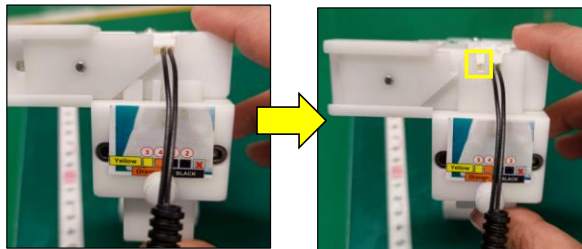
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PARTS:		1. Assy parts		JIG:	1. Insertion jig
NO.	PROCESS NAME		1 WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
10	P1	Wire insertion to connector 6098-3802 (W)	<div><div></div><div></div><div></div><div></div><div><div>1. Hold the insertion jig using left hand. Insert the 1st Black wire to connector using right hand. Conduct 2x push-pull after insertion.</div><div></div></div></div> <div><div>2. Get the 2nd Black wire then insert to connector using right hand. Conduct 2x push-pull after insertion.</div><div><div>3. Press the lower guide using right hand. Slot for Yellow wire will be open.</div></div></div>	N/A	<div>1. Use the provided jig per model 2. No wrong orientation of connector 3. No wrong use of connector 4. No damaged connector</div> <div>Important reminders/Note/s: 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. 3. Insertion of wires must be from left to right</div> <div>Document references: 1. Refer to GL-PRO-ASY-029 for Pull-Push procedure.</div>

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n/a

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310D / 7N0197-7020

Customer: TRJ

Car Model: TOYOTA-RAV4

Document No.:

WI-ENG-PDE-778A

Purpose:



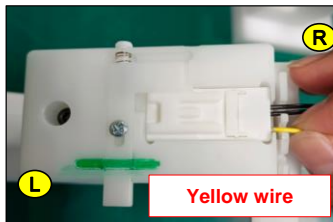
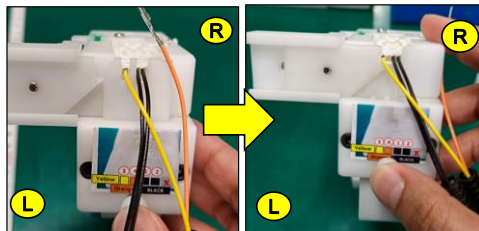

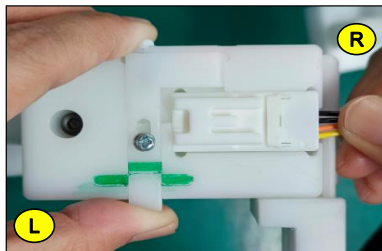
☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

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PARTS:	1. Assy parts		JIG:	1. Insertion jig
NO.	PROCESS NAME	1 WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
10	P1 Wire insertion to connector 6098-3802 (W) (Continuation)	<div></div> <div><div>WIRE FACING</div></div> <div><div>Yellow wire</div></div> <div></div> <div></div> <div></div> <div><p>4. Hold the insertion jig using left hand. Get the Yellow wire to connector using right hand. Conduct 2x push-pull after insertion.</p><p>5. Press the button of insertion jig using right hand and slot for Orange wire will be open.</p><p>6. Hold the insertion jig using left hand. Get the Orange wire to connector using right hand. Conduct 2x push-pull after insertion.</p><p>7. After insertion, push the lock using left thumb and then hold the wires and gently pull-out the connector from jig using right hand.</p></div> <div>N/A</div> <div><p>1. Use the provided jig per model 2. No wrong orientation of connector 3. No wrong use of connector 4. No damaged connector</p><p>Important reminders/Note/s: 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. 3. Insertion of wires must be from left to right</p><p>Document references: 1. Refer to GL-PRO-ASY-029 for Pull-Push procedure.</p></div>		

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WORK INSTRUCTION

TAPING ASSEMBLY PROCESS

Effectivity Date:

March 1, 2024

Process Name/Title:

Model code/Part number:

310D

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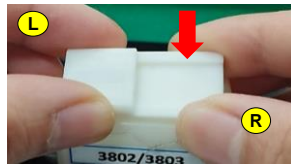



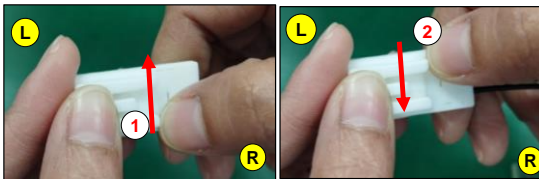





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PARTS:		1. Assy parts		JIG:	1. Locking jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
11	P1	<div><div><p>1. Load the connector into the jig holding both side of the connector, tip first.</p></div><div><p>2. Press the 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 Left thumb-middle</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><p>1. Use the provided jig per model 2. No wrong orientation of connector 3. No wrong use of connector 4. No damaged connector</p><div><p>Before pressing</p><p>After pressing</p></div><div><div>GOOD</div><p>Full Lock</p><div>NG</div><p>Half Lock</p></div><p>Important reminders/Note/s: 1. Manual locking may cause damaged connector lock.</p></div>

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☐ PROTOTYPE

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PARTS:

n/a

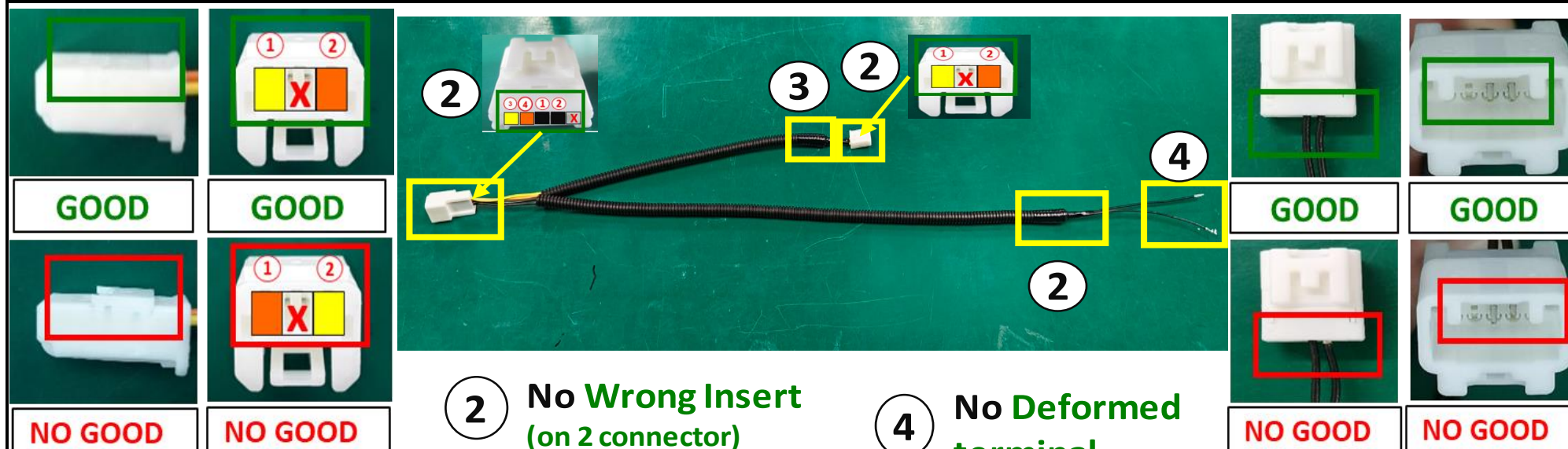
JIG:

n/a

1 QUALITY CHECKPOINTS

P1

7N0197-7020



1 No Unlock/
Halflocked Connector

2 No Wrong Insert
(on 2 connector)

3 No Missing Tape

4 No Deformed
terminal

5 No Terminal
Backing Out

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