



## WORK INSTRUCTION

Process Name/Title:

## TAPING ASSEMBLY PROCESS

Effectivity Date:

May 17, 2024

Validity Date:

n/a

Model code/Part number:

700B / 7N0037-7020B

Customer: TRJ

Car Model: TOYOTA-LAND CRUISER

Document No.:

WI-ENG-PDE-758A

Purpose:

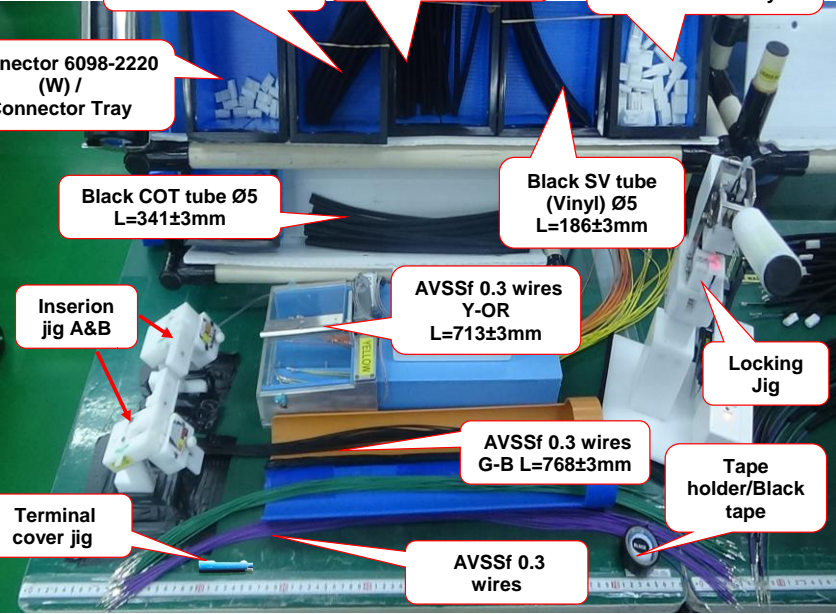
☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

Revision No.:




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PARTS:	1. Connector 6098-3802 (W); Connector 6098-2220 (W); AVSSf 0.3 wires Y-OR L=713±3mm; Black COT (no slit) Ø5 L=316±3mm; Black COT (no slit) Ø5 L=165±3mm; Black SV tube (Vinyl) Ø5 L=186±3mm; AVSSf 0.3 wires G-B L=768±3mm; AVSSf 0.3 wires V L=768±3mm;			JIG:	1. Insertion jig with and without switch cover 2. Locking jig 3. terminal cover jig	
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION			TOOLS/PPE	QUALITY POINTERS
1	P1 Table lay-out				<div><b>Safety Instruction</b> Be sure to wear prescribed personal protective equipment during operation (gloves, finger cots, etc.)</div> <div><b>Housekeeping</b> 1. Maintain and always practice 5's. 2. Personal things on the workplace is prohibited. Keep it in your locker.</div> <div><b>Alert level</b> For any trouble, inform the Assembly Assistant Supervisor or Line Leader for immediate corrective action.</div>	<div><b>Document reference/s:</b> 1. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance</div> <div>1. No missing parts/tools 2. No excess parts/tools</div>

## Revision History

								Prepared by	Reviewed by	Approved by	Noted by
05/17/24	2	Additional Work procedure/Illustration and notes on page 4-5 as countermeasure for the customer claim(Broken lock of Connector 6098-2220 (W) ).	A.Hernandez	C. Villanueva	A. Arañes	n/a		 A.Hernandez	 C. Villanueva	 A. Arañes	n/a
01/26/24	1	Changed purpose from pre-launch to masspo. Improve Work procedure/Illustration on pages 1 to 10. Additional table layout and Changed Quality checkpoint illustration.	M.A riola	C. Villanueva	A. Arañes	n/a					
12/13/23	0	Initial issue	M.A riola	C. Villanueva	A. Arañes	n/a					
Eff. Date	Rev. No	Details of Change	Revised	Reviewed	Approved	Noted	Est. Date:	December 13, 2023			

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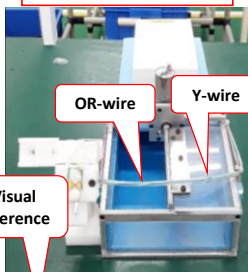
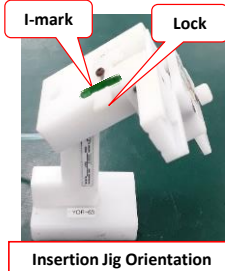
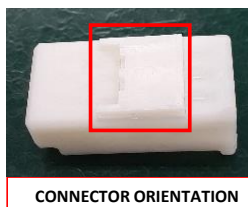
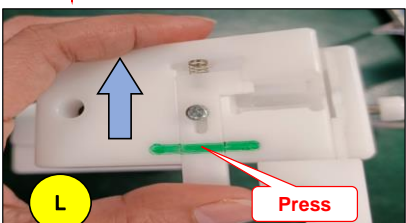
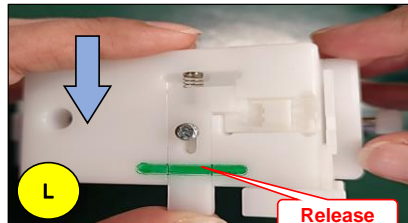
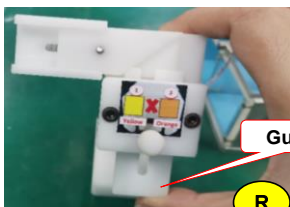
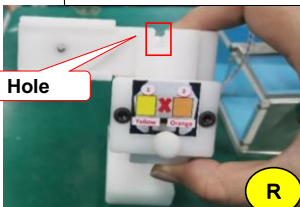

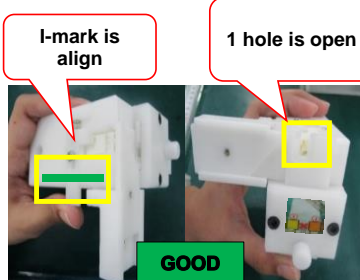
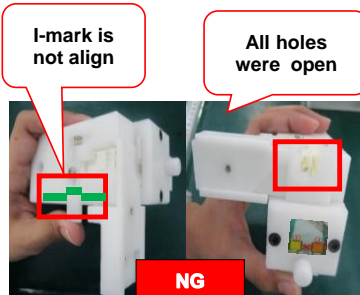
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PARTS:		1. Connector 6098-2220(W)		JIG:	1. Insertion jig with switch cover
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
2	P1	<div><div><div><p>Visual reference</p></div><div><p>Insertion Jig Orientation</p></div><div><p>CONNECTOR ORIENTATION</p></div></div><div><div><p>1. Press the lock of insertion jig using left thumb.</p></div><div><p>2. Insert the connector <b>6098-2220 (W)</b> into jig using right hand and release the lock. <i>Note: Follow the connector orientation.</i></p></div></div><div><div><p>Guide</p></div><div><p>Hole</p></div><div><p>3. Push the guide using left hand. The slot for <b>Y wire</b> will be opened.</p></div></div></div>		N/A	<div><div><p>Connector Orientation Illustration</p></div><div><div><p>GOOD</p></div><div><p>NG</p></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></div>

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☐ PROTOTYPE

☐ PRE-LAUNCH


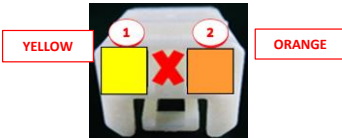
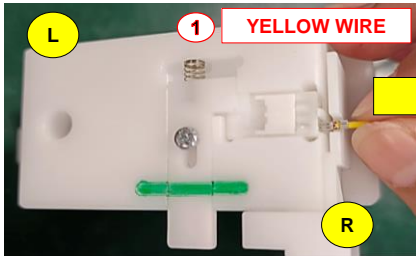
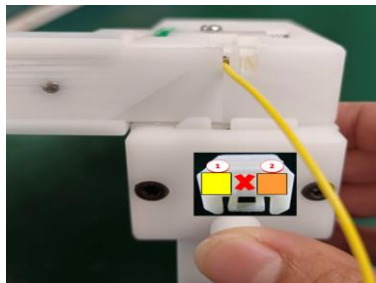
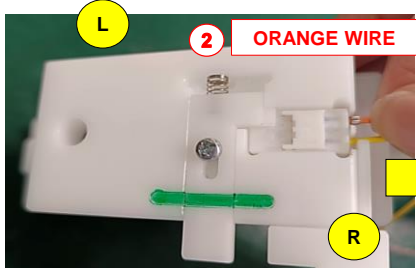
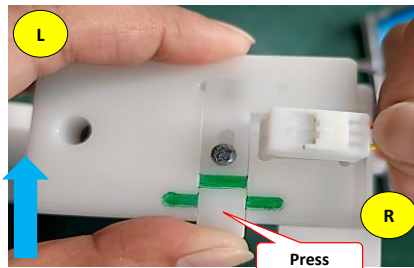
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PARTS:		1. AVSSf 0.3 Y L=713±3mm 2. AVSSf 0.3 OR L=713±3mm		JIG:	1. Insertion jig with switch cover
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
3	P1	<div><div><p>WIRE FACING</p></div><div><p>YELLOW</p><p>ORANGE</p></div><div><p>1. Hold the insertion jig using left hand. Get the <b>Y wire</b> and insert to connector using right hand.</p></div><div><p>2. Press the button using right thumb the slot for <b>OR wire</b> will be opened.</p></div><div><p>3. Get the <b>OR wire</b> 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> <div>N/A</div> <div><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><b>Important reminders/Note/s:</b> <b>1. Please hold the wire near terminal.</b> <b>2. Make sure wires are properly inserted.</b> <b>Conduct Pull-Push-Pull-Push after insertion.</b> <b>Do not exert extra force.</b></p><p><b>Document references:</b> <b>1. Refer to GL-PRO-ASY-029 for Pull-Push procedure.</b> <b>2. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance</b></p></div>			

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☐ PROTOTYPE

☐ PRE-LAUNCH

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PARTS: 1. Assy parts

JIG:

1. Locking jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

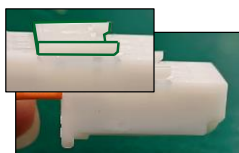
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TOOLS/PPE

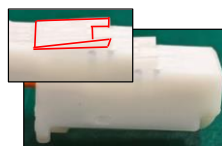
2 QUALITY POINTERS

### CONNECTOR RETAINER ILLUSTRATION

#### SIDE VIEW



GOOD



NG

1. Check the Retainer lock of connector before insertion to locking jig.

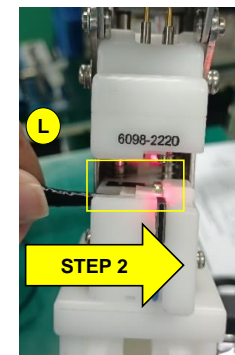
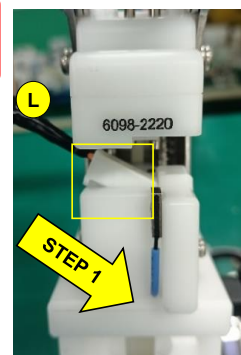
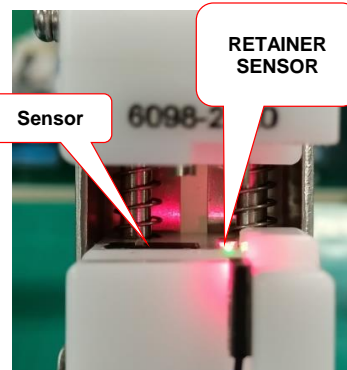
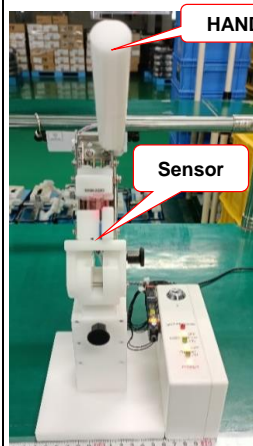
*Note: Must be **NO** half-locked condition prior connector locking.*

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.

4

P1

Connector lock



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.

***NOTE: CONNECTOR LOCKING JIG WILL NOT FUNCTION IF CONNECTOR NOT REACH THE SENSOR.***

2

Important reminders/Note/s:

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.*

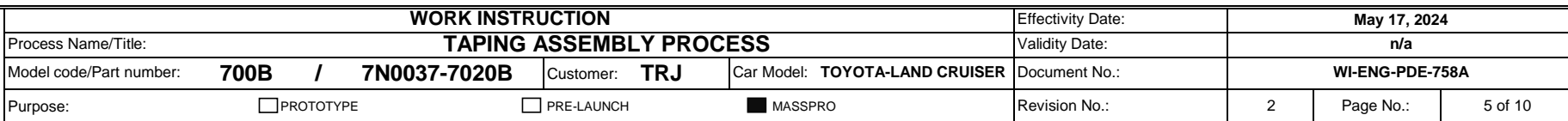
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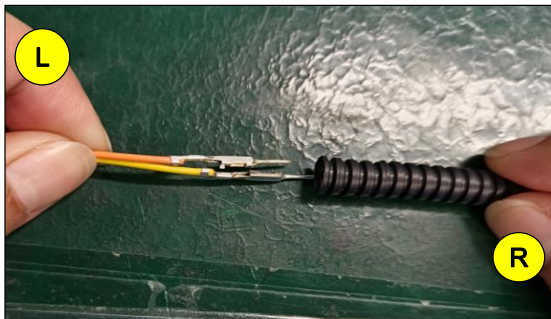
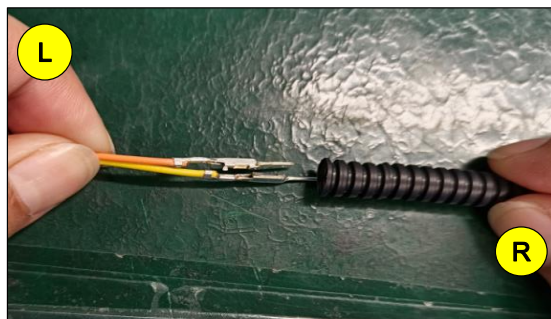
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<b>PARTS:</b>		1. Assy parts	3. Black Corrugated Tube Ø5 L=165±3mm (No Slit)	JIG:	n/a
		2.Black Corrugated Tube Ø5 L=316±3mm (No Slit)			
<b>NO.</b>	<b>PROCESS NAME</b>	<b>WORK PROCEDURE/ ILLUSTRATION</b>		<b>TOOLS/PPE</b>	<b>QUALITY POINTERS</b>
5	P1	Wire insertion to Black Corrugated tube Ø5 L=316±3mm (No slit)	 <div>1.Get the Black COT Ø5 L=316±3mm (No slit) using right hand and insert Y-OR wires using left hand.</div>	N/A	1. No wrong use of parts 2. No deformed terminal
6		Wire Insertion to Black Corrugated tube Ø5 L=165±3mm (No Slit)	 <div>1.Get the Black Corrugated Tube Ø5 L=165±3mm (No Slit) using right hand then insert Y-OR wires using left hand.</div>	N/A	1. No wrong use of parts 2. No deformed terminal

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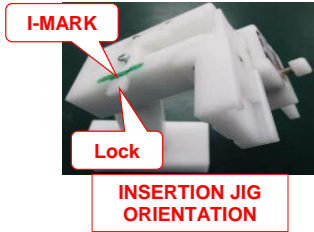
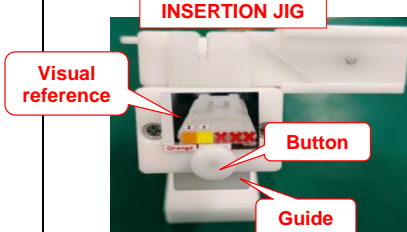
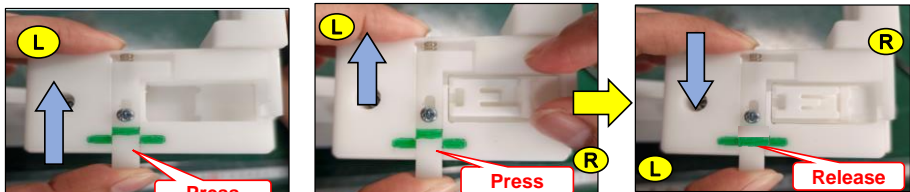
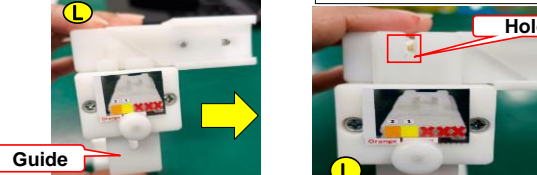
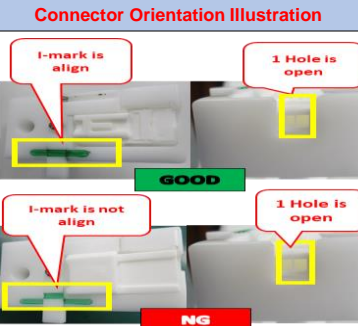
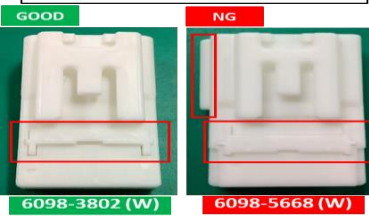
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PARTS:		1. Assy Parts 2. Black SV tube (Vinyl) Ø5 L=186±3mm		3. Connector 6098-3802 (W)		JIG:	1. Insertion jig
NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION			TOOLS/PPE	QUALITY POINTERS
7	Wire insertion to Black SV tube (Vinyl) Ø5 L=186±3mm		<div><div>1. Get the Black SV tube (Vinyl) Ø5 L=186±3mm using right hand and insert <b>Y-OR</b> using left hand.</div></div>			N/A	1. No wrong use of parts 2. No deformed terminal
8	P1	Connector setting to insertion jig 6098-3802 (W)	<div><div></div><div><div>1. Press the lock of insertion jig using left thumb.</div><div>2. Insert the connector <b>6098-3802 (W)</b> into jig using right hand and release the lock. <b>Note: Follow the connector orientation.</b></div><div><div>3. Push the guide using left hand. The slot for <b>Y wire</b> will be opened.</div></div></div></div>			N/A	<div><p><b>CONNECTOR ORIENTATION ILLUSTRATION</b></p><p><b>CONNECTOR ILLUSTRATION</b></p></div> <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>

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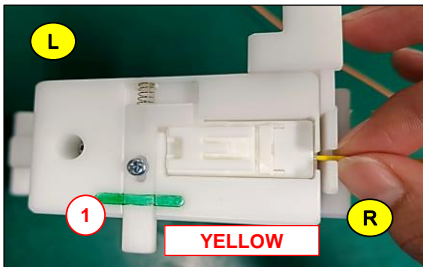
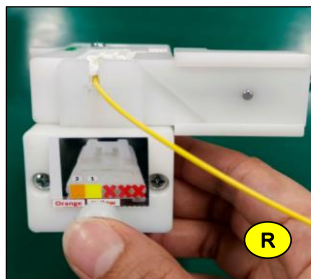
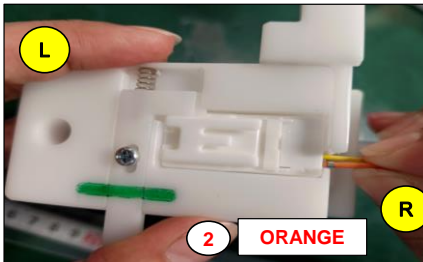
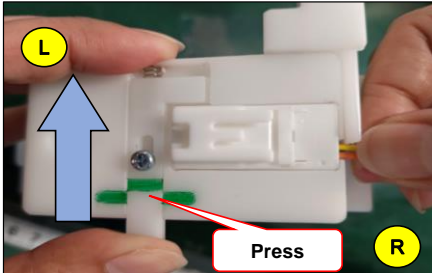
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PARTS:		1. Assy parts		JIG:	1. Insertion jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
9	P1	<div>Wire insertion to connector 6098-3802 (W)</div> <div><p>WIRE FACING</p></div> <div><p>1. Get the assy part and hold the <b>Y wire</b> then insert to terminal slot <b>1</b> using right hand.</p></div> <div><p>2. After insertion of <b>Y wire</b> press the button using right thumb. Slot for <b>OR wire</b> will be opened.</p></div> <div><p>3. Get the <b>OR wire</b> then insert to terminal slot <b>2</b> 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>		N/A	<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><b>Important reminders/Note/s:</b> <b>1. Please hold the wire near terminal.</b> <b>2. Make sure wires are properly inserted.</b> <b>Conduct Pull-Push-Pull-Push after insertion.</b> <b>Do not exert extra force.</b> <b>3. Insertion of wires must be from left to right</b></p> <p><b>Document references:</b> <b>1. Refer to GL-PRO-ASY-029 for Pull-Push procedure.</b></p>

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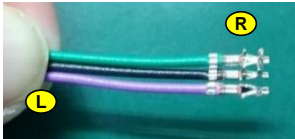
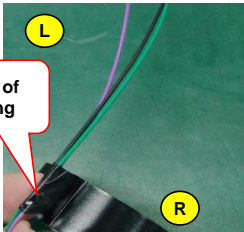

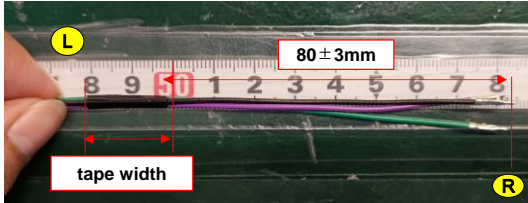

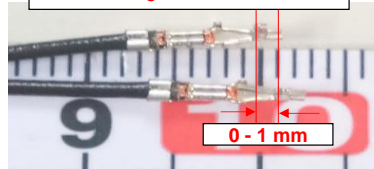




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PARTS:		1. Assy parts 2. Black corrugated tube $\varnothing 5$ L=341 $\pm$ 3mm (No Slit)		3. Black tape	JIG:	1. Terminal cover jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION			TOOLS/PPE	QUALITY POINTERS
10	P1 Taping 1 Spot tape	<div><p>1. Combine the assy parts then align all terminals.</p></div> <div><p>Start of taping</p></div> <div><p>3. Get the <b>Black tape</b> using right hand then conduct <b>2 windings of spot taping</b> using both hands.</p></div> <div><p>2. Conduct measurement from wires to terminal pointed tip <b>100<math>\pm</math>3mm</b> using both hands.</p></div> <div><p>80 <math>\pm</math> 3mm tape width</p></div> <div><p>4. After taping, check the measurement and taping condition.</p></div>			<p><b>MEASURING TAPE</b></p> 	 <p>Wire alignment tolerance 0 - 1 mm</p> <p><b>Important reminders/Note/s:</b></p> <p>1. <b>Please use calibrated/verified measuring tape when getting the measurement.</b></p> <p>1. No flip-out tape 2. No peel-off tape 3. No loose tape 4. No missing tape 5. No wrong use of tape 6. No wrong dimension</p>
11	Wire insertion to Black corrugated tube $\varnothing 5$ L=341 $\pm$ 3mm (no slit)	<div><p>1. Hold the wires using left hand, get the terminal cover jig using right hand then insert the <b>B-G-V wires</b> using left hand.</p></div> <div><p>2. Get the corrugated tube (<b>no slit</b>) <math>\varnothing 5</math> L=341<math>\pm</math>3mm (<b>no slit</b>) using right hand then insert the <b>B-G-V wires</b> using left hand.</p></div> <div><p>3. After insertion, remove the terminal cover jig using right hand.</p></div>			<p><b>Terminal cover Jig</b></p> 	<p>1. No wrong insertion 2. No deformed terminal</p>

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# WORK INSTRUCTION

## TAPING ASSEMBLY PROCESS

Effectivity Date:

May 17, 2024

Process Name/Title:

Model code/Part number: **700B / 7N0037-7020B**

Customer: **TRJ**

Car Model: **TOYOTA-LAND CRUISER**

Validity Date:

n/a

Document No.:

WI-ENG-PDE-758A

Purpose:

☐ PROTOTYPE

☐ PRE-LAUNCH

☒ MASSPRO

Revision No.:

2

Page No.:

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PARTS:

n/a

JIG:

n/a

### QUALITY CHECKPOINTS

# P1

## 7N0037-7020B



GOOD



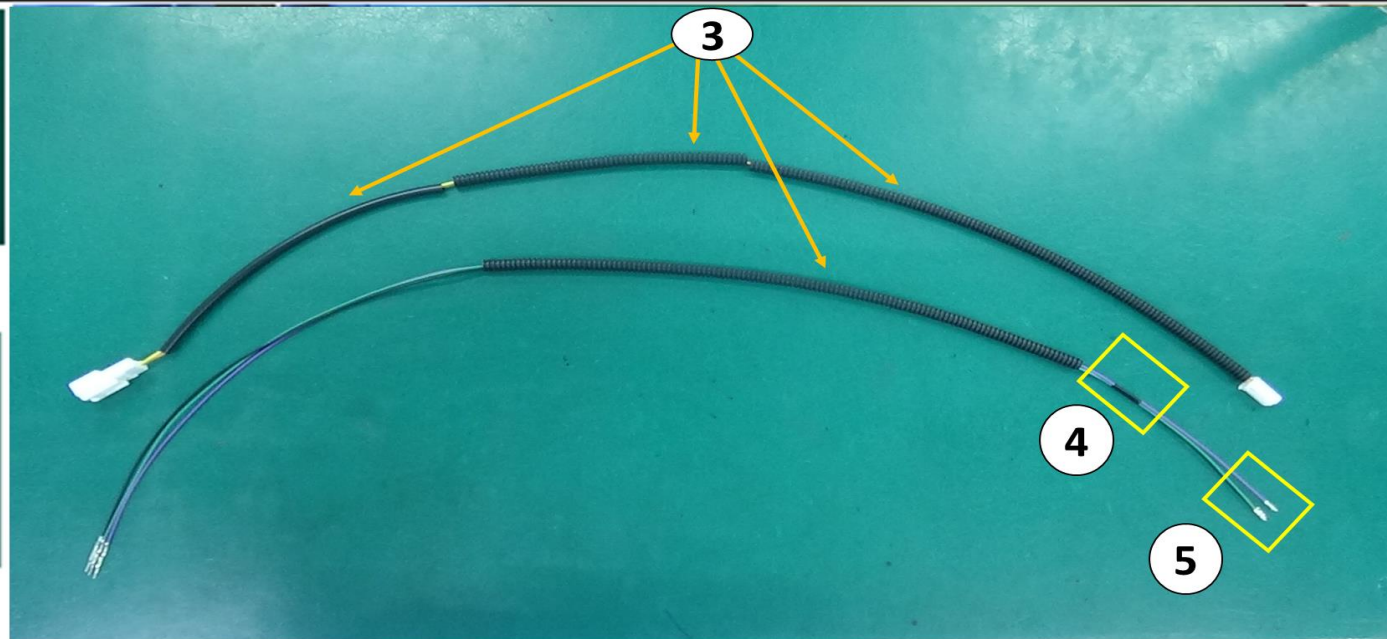
GOOD



NO GOOD



NO GOOD



1 NO UNLOCK/HALFLOCK Connector (2)

2 NO Wrong Insertion (2)

3 NO Missing Tube (4)  
4 NO Missing SpotTape

5 NO Deformed terminal

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