



## WORK INSTRUCTION

## TAPING ASSEMBLY PROCESS

Effectivity Date:

October 22, 2024

Process Name/Title:

Validity Date:

n/a

Model code/Part number:

310B / 7M0522-7021B

Customer: TRJ

Car Model: TOYOTA-RAV 4

Document No.:

WI-ENG-PDE-1130A

Purpose:

☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

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## PARTS:

1. Assy parts; Connector 6188-0066 (GR); TVSSf 0.3 G wires L=801±3mm; TVSSf 0.3 B/W wires L=801±3mm; Black Corrugated tube (No slit) Ø5 L=436±4mm; Black tape ; Black SV tube (Vinyl) Ø7 L=57±3mm ; Black Sv tube (Vinyl) Ø7 L=213±3mm

JIG:

1. Insertion jig with switch cover
2. Locking jig
3. Terminal cover jig

NO.

PROCESS NAME

WORK PROCEDURE/ ILLUSTRATION

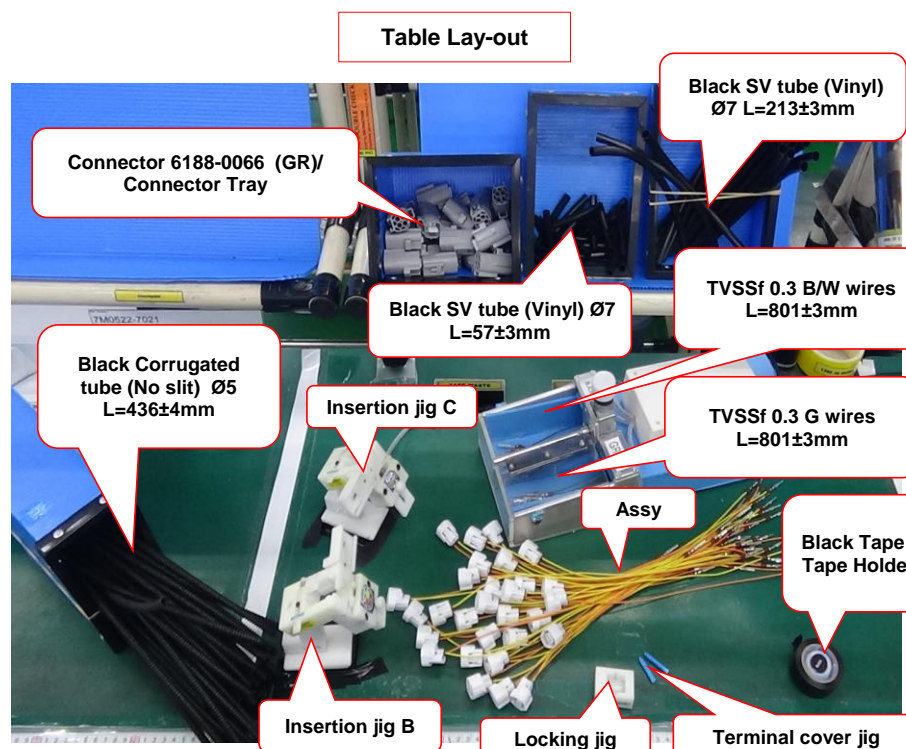
TOOLS/PPE

QUALITY POINTERS

1

P1

Table lay-out

**Safety Instruction**

Be sure to wear prescribed 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.

**Document reference/s:**

1. Refer to **WI-PRO-CNC-017** for Wire and Strip Length Tolerance
2. Refer to **WI-ENG-PDE-402** for Offline assembly process

1. No missing parts/tools
2. No excess parts/tools

## Revision History

Prepared by

Reviewed by

Approved by

Noted by

10/22/24 1 Change from Pre-launch to Masspro.

A. Hernandez

C. Villanueva

A. Arañes

n/a

10/17/24 0 Initial Issue.

A. Hernandez

C. Villanueva

A. Arañes

n/a

Eff. Date Rev. No

Details of Change

Revised

Reviewed

Approved

Noted

Est. Date:

October 17, 2024

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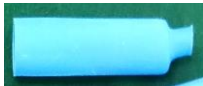
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PARTS:		1. Assy part 2. Black SV tube (Vinyl) Ø7 L=57±3mm		3. Black SV tube (Vinyl) Ø7 L=213±3mm		JIG:	1. Terminal cover jig
NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION			TOOLS/PPE	QUALITY POINTERS
2	P1	Wire Insertion to Black SV tube (Vinyl) Ø7 L=57±3mm and Black SV tube (Vinyl) Ø7 L=213±3mm	<div><div></div><div><p>1. Hold the wires using left hand, put on terminal cover jigs for <b>both wires (Y and OR)</b> using right hand.</p></div><div></div><div><p>2. Hold the wires using left hand. Get the 1st <b>SV tube (Vinyl) Ø7 L=57±3mm</b> then insert the wires, get the 2nd <b>SV tube (Vinyl) Ø7 L=213±3mm</b> and insert the wires using right hand.</p></div><div></div><div><p>3. Remove the terminal cover jig after insertion.</p></div></div> <div><div>TERMINAL COVER JIG</div></div>			1. No wrong use of parts 2. No deformed terminal 3. No damage rubber seal	

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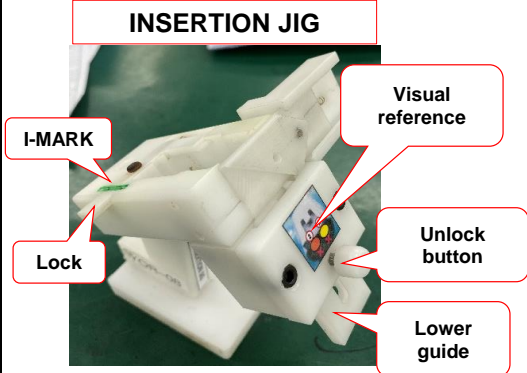

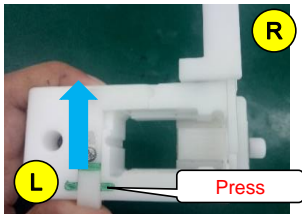
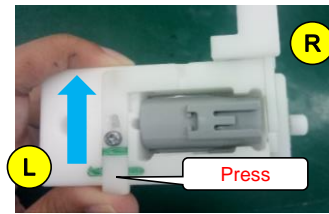
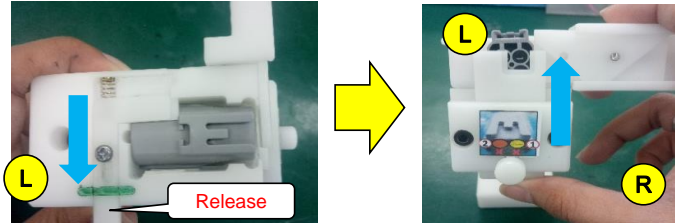
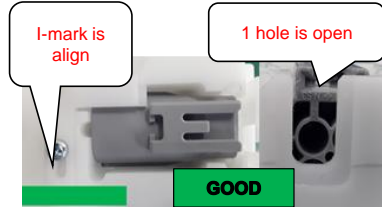
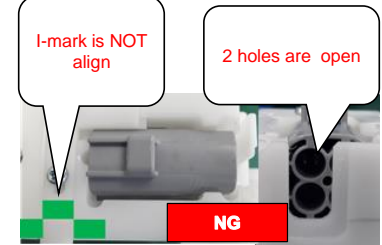
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PARTS:		1. Connector 6188-0066 (GR)		JIG:	1. Insertion jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
3	P1	<div><div><div><b>INSERTION JIG</b></div></div><div></div></div> <div><p>1. Press the lock of insertion jig using left thumb.</p><p>2. Insert the connector <b>6188-0066 (GR)</b> into jig using right hand and release the lock.</p><p>3. Push the wire guide upward, slot for <b>Yellow wire</b> will be open.</p></div>		n/a	<div><div><b>Connector Orientation Illustration</b></div><p>I-mark is align 1 hole is open <b>GOOD</b></p><p>I-mark is NOT align 2 holes are open <b>NG</b></p></div> <div><p>1. Use provided jig per model 2. No wrong usage of parts 3. No wrong orientation of connector 4. No damaged connector</p></div>

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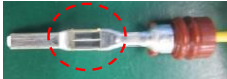
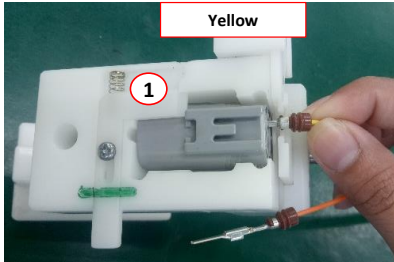
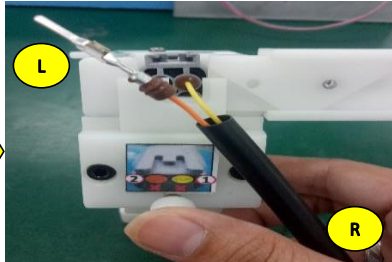
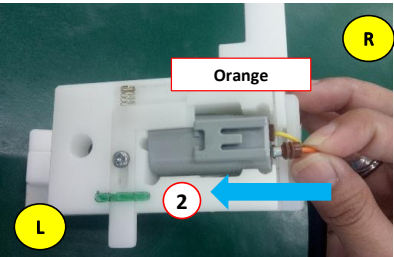
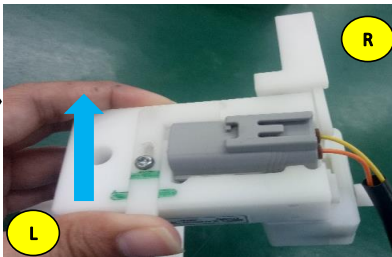
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PARTS:		1. Assy parts		JIG:	1. Insertion jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
4	P1	<div><div><div>WIRE FACING</div></div><div><div><div>Yellow</div><div>1</div></div><div><div>L</div><div>R</div></div><div><div><div>Orange</div><div>2</div></div><div><div>L</div><div>R</div></div><div><div>1. Hold the insertion jig using left hand, get <b>Yellow wire</b> using right hand and insert to connector.</div><div>2. Press the button after insertion. Slot for <b>Orange wire</b> will be open.</div><div>3. Hold the insertion jig using left hand, get <b>Orange wire</b> using right hand and insert to connector.</div><div>4. Press the insertion jig lock using left hand and slowly remove the harness from jig using right hand.</div></div></div></div></div>		n/a	<p><b>Important reminders/note/s:</b></p> <p>1. Insertion of wire must be from left to right.</p> <p>2. Make sure wires are properly inserted.</p> <p>Conduct <b>Pull-Push-Pull-Push</b> after insertion.</p> <p>Do not exert extra force.</p> <p><b>Document reference/s:</b></p> <p>1. Refer to <b>GL-PRO-ASY-029</b> for Pull-Push procedure.</p> <p>1. No loose insertion 2. No wrong insertion 3. One by one insertion 4. No deformed terminal 5. No wrong wire facing</p>

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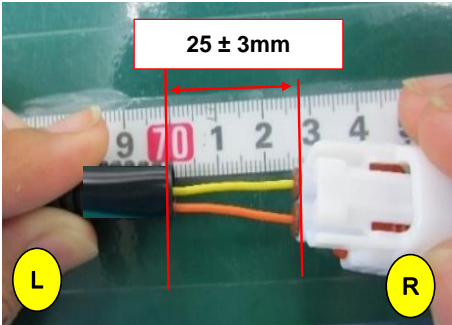
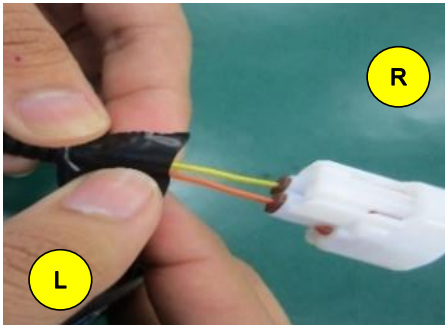
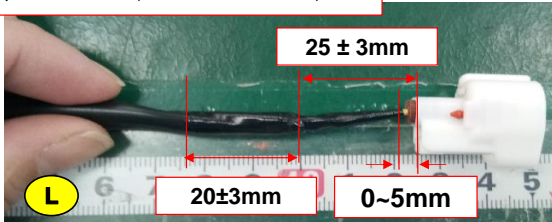

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PARTS:		1. Assy Parts 2. Black tape	JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
5	P1 Taping 1 Vinyl tube to wire near Connector	<div></div> <div></div> <div><p>1. Hold the assy parts and measure from end of Vinyl tube to connector <b>25mm</b> using both hands.</p><p>2. Hold the assy parts using left hand, get Black tape using right hand and begin taping process.</p></div> <div><p><b>Note:</b> 0 -5mm →End tape up to connector (includes rubber seal)</p></div> <div><p>3. After taping, check the measurement and taping condition.</p></div>	<div><p><b>MEASURING TAPE</b></p></div>	<p>1. No flip-out tape 2. No peel-off tape 3. No loose tape 4. No wrong dimension 5. No wrong use of tape 6. No missing tape</p> <p><b>Important reminders and Note/s:</b> <b>1. Please use calibrated/verified measuring tape when getting the measurement.</b></p> <p><b>Document reference/s:</b> <b>1. Refer to WI-PRO-ASY-001 for taping procedure.</b></p>

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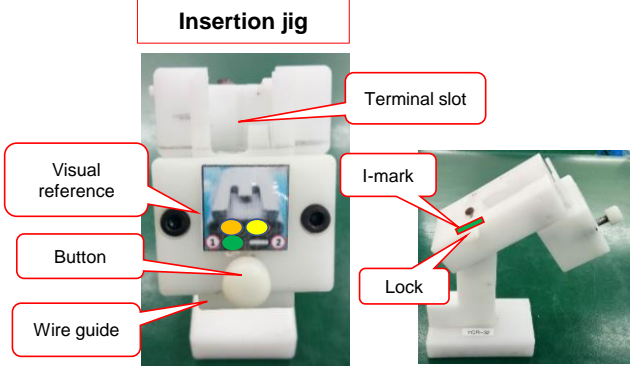
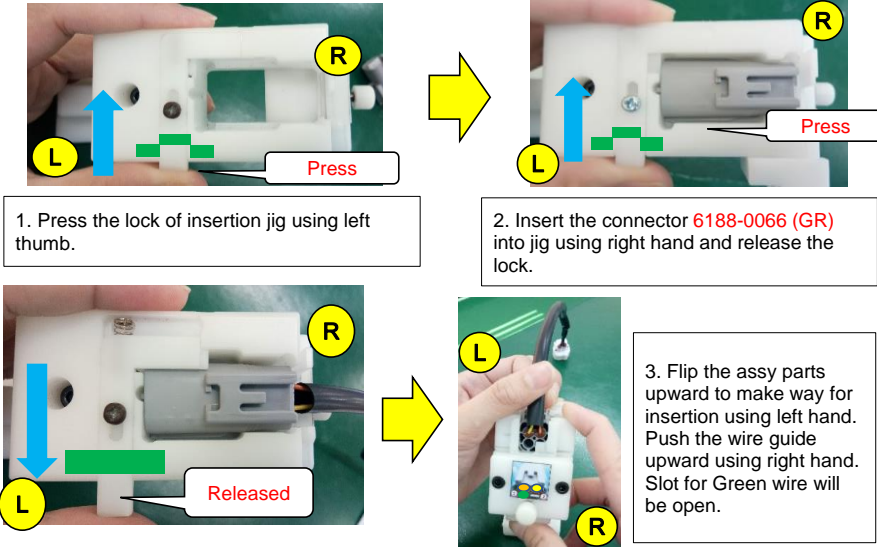
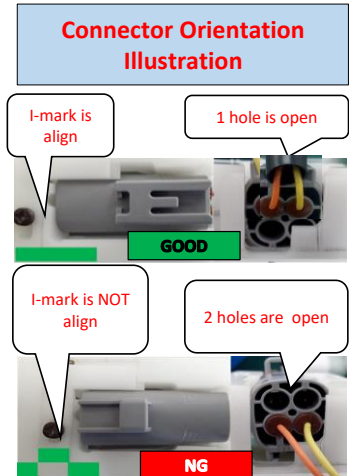
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PARTS:		1. Assy Parts		JIG:	1.Insertion jig with switch cover
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
6	P1	<div><div><div>Insertion jig</div><div></div></div><div><div></div></div></div> <div>Connector setting to insertion jig 6188-0066 (GR) (Assy parts)</div>		n/a	<div><div><div><b>Connector Orientation Illustration</b></div><div></div></div><div>1. Use provided jig per model 2. No wrong usage of parts 3. No wrong orientation of connector 4. No damaged connector</div></div>

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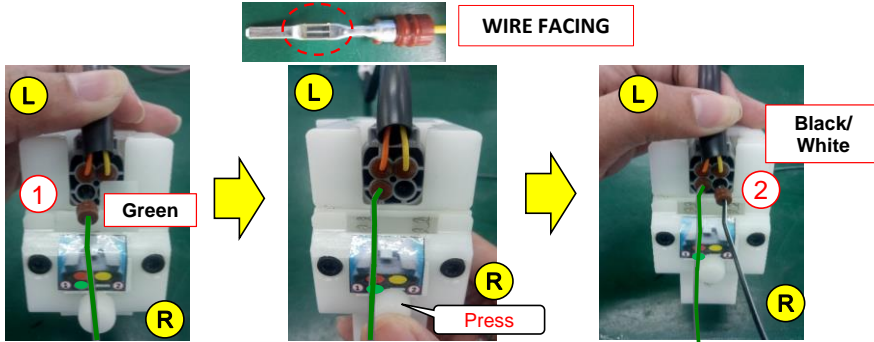
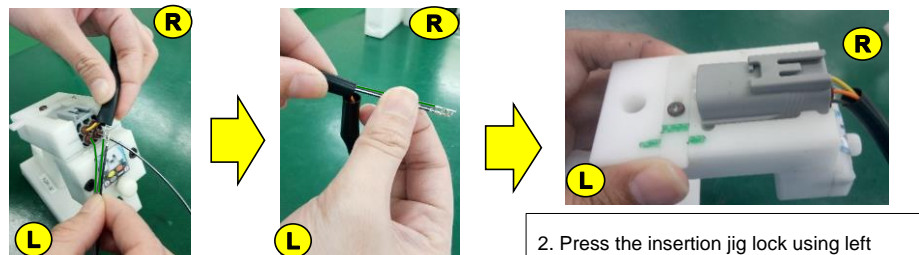
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PARTS:		1. TVSSf 0.3 G wire L=801±3mm 2. TVSSf 0.3 B/W wire L=801±3mm		JIG:	1.Insertion jig with switch cover
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
7	Wire Insertion to connector 6188-0066 (GR)	<div><div><p><b>WIRE FACING</b></p><p><b>Green</b></p><p><b>Black/White</b></p><p><b>Press</b></p><p>1. Hold the assy parts upward using left hand. Get the <b>Green wire</b> and insert to connector using right hand.</p><p>2. Press the button after insertion. Slot for <b>Black/White wire</b> will be open.</p><p>3. Get the <b>Black/White wire</b> using right hand and insert to connector.</p></div></div>		n/a	<p><b>Important reminders/note/s:</b></p> <p>1. <i>Insertion of wire must be from left to right.</i></p> <p>2. <i>Make sure wires are properly inserted.</i> Conduct <b><u>Pull-Push-Pull-Push</u></b> after insertion. <i>Do not exert extra force.</i></p> <p><b>Document reference/s:</b></p> <p>1. Refer to <b>GL-PRO-ASY-029</b> for <b>Pull-Push</b> procedure.</p> <p>1. No loose insertion 2. No wrong insertion 3. One by one insertion 4. No deformed terminal 5. No wrong wire facing</p>
8	Wire insertion to Vinyl tube with assy parts	<div><div><p>1. Hold the assy parts upward using left hand. Insert the <b>Green and Black/White wires</b> to SV tube (Vinyl) using right hand.</p><p>2. Press the insertion jig lock using left hand and slowly remove the harness from jig using right hand.</p></div></div>		n/a	<p>1. No wrong use of parts 2. No deformed terminal</p>

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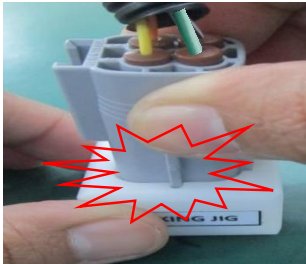



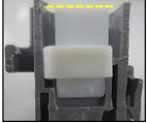
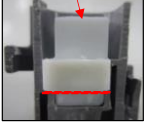
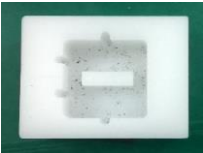
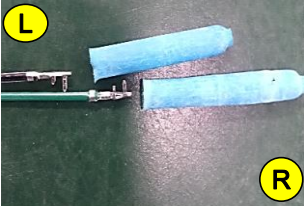

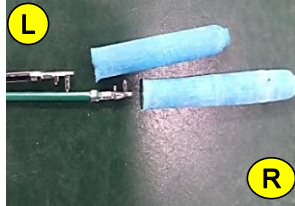

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PARTS:		1. Assy Parts 2. Black Corrugated tube (No slit) Ø5 L=436±4mm		JIG:	1. Locking jig 2. Terminal cover jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
9	Connector Lock  P1	<div></div> <div></div> <div><div>1. Put the connector into locking jig using right hand then press <b>2x</b> to lock. Touch the connector lock to confirm if properly pressed.</div><div><div>Connector Cross Sectional View</div><div><div>NG</div><div>Lock</div><div>Unlock Condition</div></div><div><div>NG</div><div>Lock</div><div>Half Lock Condition</div></div><div><div>GOOD</div><div>Lock</div><div>Full Lock Condition</div></div></div></div> <div><div>LOCKING JIG</div></div> <div><div><b>Important reminders/Note/s:</b> 1. Manual locking may cause damaged lock</div><div>1. No unlock/half-locked connector 2. No damage connector</div></div>			
10	Wire Insertion to Corrugated tube Ø5 L=436±4mm	<div><div><div>1. Get the terminal cover jig using right hand then insert to wires.</div></div><div><div>2. Get the corrugated tube <b>Ø5 L=436±4mm</b> using right hand and insert to wires.</div></div><div><div>3. Remove the terminal cover jig after insertion.</div></div></div> <div><div>TERMINAL COVER JIG</div></div> <div><div>1. No wrong use of parts 2. No deformed terminal</div></div>			

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**PARTS:**

1. Assy parts

JIG:

n/a

**VISUAL INSPECTION/ QUALITY CHECKPOINTS****P1****7M0522-7021B****1** No Unlocked/ Half-locked Connector**3** No Terminal Backing Out**2** No Wrong Insert**4** No Missing Tape ( Black Tape )**5** No Deformed Term

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