



WORK INSTRUCTION TAPING ASSEMBLY PROCESS

Effectivity Date:	April 26, 2023		
Validity Date:	n/a		
Document No.:	WI-ENG-PDE-452A		
Revision No.:	4	Page No.:	1 of 10

Process Name/Title:	TAPING ASSEMBLY PROCESS		
Model Code/Part Number:	241B / 7L0048-7023	Customer:	TRQSS
Purpose:	<input type="checkbox"/> PROTOTYPE <input type="checkbox"/> PRE-LAUNCH <input checked="" type="checkbox"/> MASSPRO		

PARTS:	1. All parts: Connector 6098-3802 (W); Connector 6188-0407 (W); Black Corrugated tube ø7, L=314±3mm (no slit); Black Corrugated tube ø7, L=61±3mm (no slit); Black Corrugated tube ø5 L=55±3mm (no slit); MRSW CP (TVSSf 0.3 wires G-B/W L=571±3mm with inserted Black Sunprene tube ø5, L=106±3mm; AVSSf 0.3 wires B L=551mm±3mm [2pcs]	JIG:	1. Insertion jig with switch cover 2. Locking jig 3. Terminal cover jig
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NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION	TOOLS/PPE	QUALITY POINTERS
1	P1 Table Lay-out	<p>Table Lay-out</p> <p>Black Corrugated tube ø7 L=314±3mm (no slit)</p> <p>Black Corrugated tube ø7 L=61±3mm (no slit)</p> <p>Connector 6098-3802 (W)/Connector Tray</p> <p>Connector 6188-0407 (W)/Connector Tray</p> <p>Black Corrugated tube ø5 L=55±3mm (no slit)</p> <p>AVSSf 0.3 wires B L=551mm±3mm</p> <p>MRSW CP (TVSSf 0.3 wires G L=571±3mm; B/W L=571±3mm with inserted Black Sunprene tube ø5, L=106±3mm</p> <p>Insertion Jig A</p> <p>Insertion Jig B</p> <p>Locking jig</p> <p>Terminal cover jig</p> <p>Tape Holder/ Black tape</p>	<p>Safety Instruction</p> <p>Be sure to wear prescribed personal protective equipment during operation (gloves, finger cots, etc.)</p> <p>Housekeeping</p> <p>1. Maintain and always practice 5's. 2. Personal things on the workplace is prohibited. Keep it in your locker.</p> <p>Alert level</p> <p>For any trouble, inform the Assembly Assistant Supervisor or Line Leader for immediate corrective action.</p>	<p>Document reference/s:</p> <p>1. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance 2. Refer to WI-PRO-KIT-006 Wire Taping with Vinyl tube</p> <p>1. No missing parts/tools 2. No excess parts/tools</p>

Revision History						Prepared by	Reviewed by	Approved by	Noted by
04/26/23	4	Inclusion of quality checkpoints	J. Loterte	C. Villanueva	A. Arañes	n/a			
11/04/22	3	Improve quality pointers: Reminders/notes and references in process no.1,2,4,5,6,7,8 and 11 due to document improvement. Work procedure/illustration in process no.8 - visual/by two's inspection	M. Catapang	J. Loterte	C. Villanueva	A. Arañes			
07/08/22	2	Change of table lay-out illustration. Improve work procedure. Transferring of taping process: Sunprene tube to wire near terminal/Hotmelted wire from P2 to P1 as process improvement.	M. Catapang	J. Loterte	C. Villanueva	A. Arañes			
03/11/22	1	Change Pre-launch to Masspro.	K. Doria	J. Loterte	C. Villanueva	A. Arañes	J. Loterte	C. Villanueva	A. Arañes
Eff. Date	Rev. No	Details of Change	Revised	Reviewed	Approved	Noted	Est. Date:	March 08, 2022	

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PARTS:		1. Black Corrugated tube $\phi 7$ L=314 \pm 3mm (no slit) 2. Black Corrugated tube $\phi 7$ L=61 \pm 3mm (no slit)		3. MRSW CP TVSSf 0.3 wires G-B/W L=571 \pm 3mm with inserted Black Sunprene tube $\phi 5$ L=106 \pm 3mm		JIG	1. Terminal cover jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION			TOOLS/PPE		QUALITY POINTERS
2	P1	<div>Wire insertion to Black Corrugated tube $\phi 7$ L=314\pm3mm (no slit) - 1st</div> <div>$\phi 7$ L=61\pm3mm (no slit) - 2nd</div> <div> 1. Get the terminal cover jig using right hand then insert to both terminals of G-B/W wires.</div> <div> 2. Get the corrugated tube $\phi 7$ L=314\pm3mm using right hand then insert the G-B/W wires using left hand.</div> <div> 3. Get the corrugated tube $\phi 7$ L=61\pm3mm using right hand then insert the G-B/W wires using left hand.</div> <div> 4. After insertion, remove the cover jig using right hand.</div> <div> $\phi 7$ L=314\pm3mm $\phi 7$ L=61\pm3mm</div>			<div>Terminal Cover Jig</div> <div></div>		<div>Document reference/s:</div> <div>1. Refer to WI-PRO-CNC-017 for Wire and Strip Length Tolerance</div> <div>1. No damaged rubber seal</div> <div>2. No deformed terminal</div> <div>3. No wrong use of parts</div>

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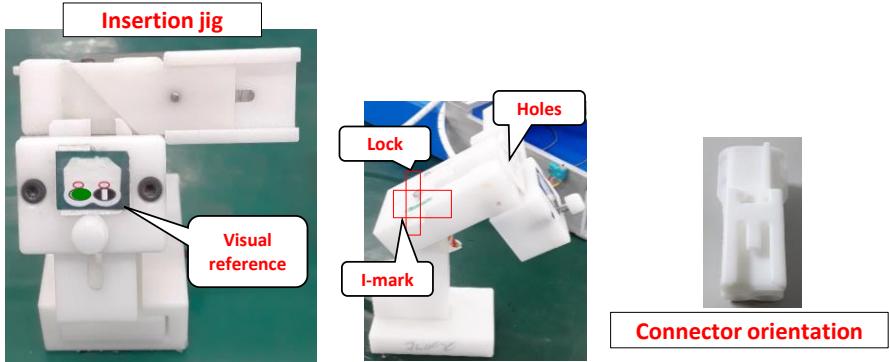
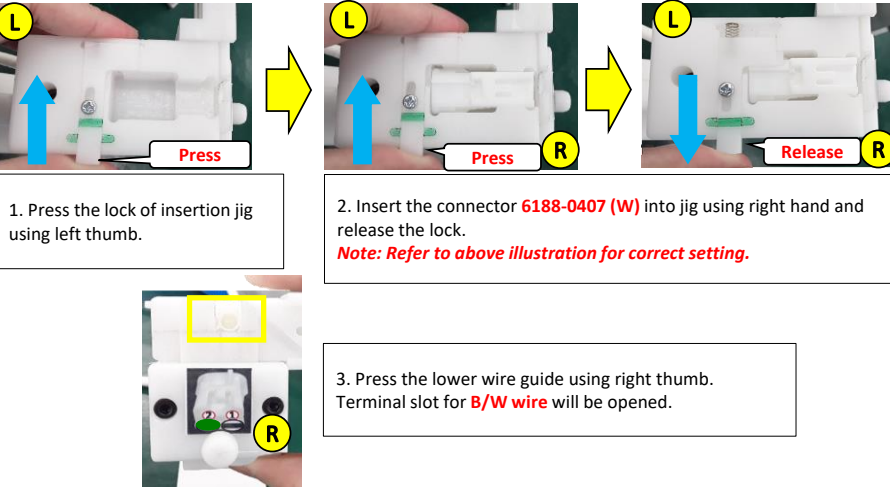
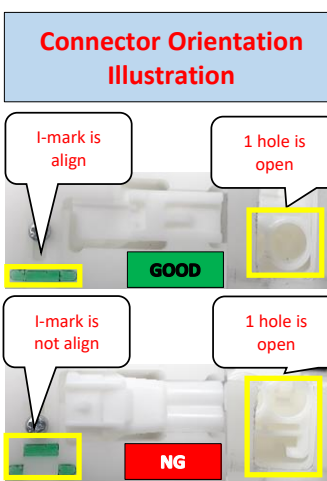
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PARTS:		1. Connector 6188-0407 (W)		JIG	1. Insertion jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
3	P1	<p>Connector setting to insertion jig 6188-0407 (W)</p>  		n/a	<p>Connector Orientation Illustration</p>  <p>1. Use the provided jig per model 2. No wrong orientation of connector 3. No wrong use of connector 4. No damaged connector</p>

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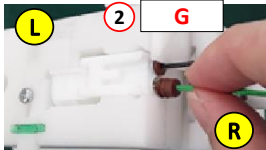

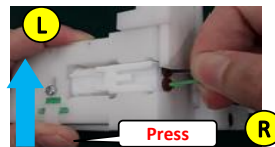


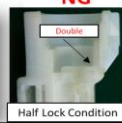




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PARTS:		1. Assy parts 1			JIG	1. Insertion jig 2. Locking jig
NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
4	P1	Wire Insertion to connector 6188-0407 (W)	<div><div><div></div><div></div></div><div><p>1. Hold the insertion jig using left hand. Get the B/W wire and insert to connector using right hand.</p><p>2. Press the button using right thumb. slot for Green wire will be opened.</p></div><div><div></div><div></div></div><div><p>3. Get the Green wire and insert to connector using right hand.</p><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> <td>1. No loose insertion 2. No wrong insertion 3. One by one insertion 4. No deformed terminal 5. No wrong wire facing 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. 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</td>		1. No loose insertion 2. No wrong insertion 3. One by one insertion 4. No deformed terminal 5. No wrong wire facing 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. 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	
5		Connector lock	<div><div></div><div><p>1. Put the connector into locking jig using right hand then press 2x to lock. Check the condition of lock after pressing.</p></div><div><div><div></div><div></div><div></div></div><div></div><div></div></div></div> <div>LOCKING JIG</div> <div></div> <td>1. Use the provided locking jig per model 2. No unlocked/half-locked connector 3. No damaged lock</td>		1. Use the provided locking jig per model 2. No unlocked/half-locked connector 3. No damaged lock	

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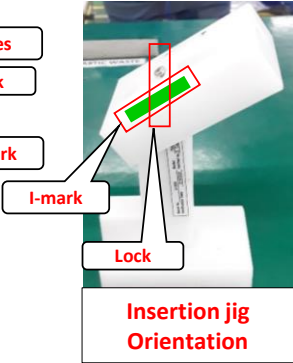
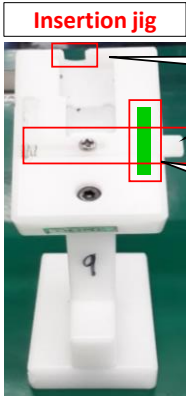
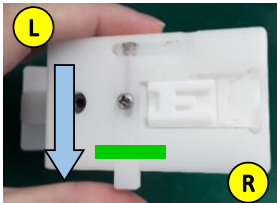
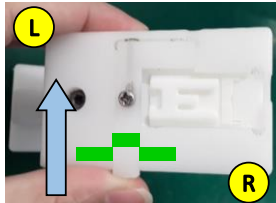
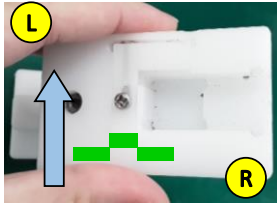
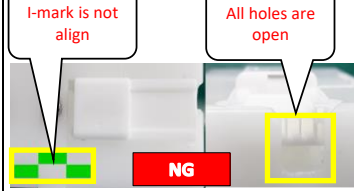
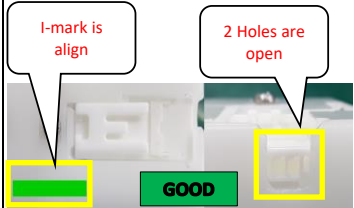
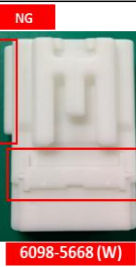

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PARTS:		1. Connector 6098-3802 (W)		JIG	1. Insertion jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
6	P1 Connector setting to insertion jig 6098-3802 (W)	<div></div> <div></div> <div><p>1. Press the lock of insertion jig using left thumb.</p><p>2. Insert the connector 6098-3802 (W) into jig using right hand and release the lock. <i>Note: Refer to above illustration for correct setting.</i></p><p>3. Check the holes/terminal slot for 2 Black wires.</p></div>		n/a	<div></div> <div><p>CONNECTOR ILLUSTRATION</p></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>

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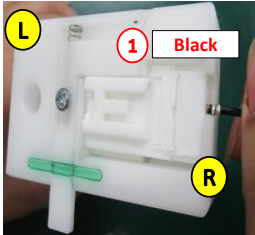
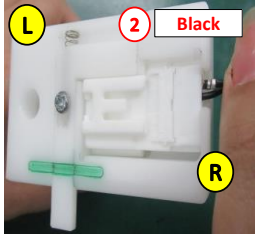
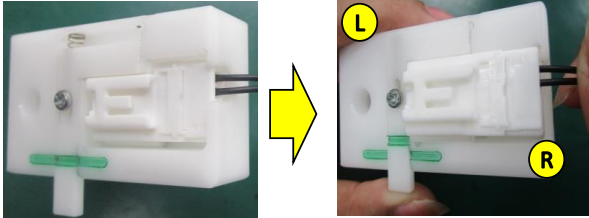
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PARTS:		1. Assy parts 2. AVSSf 0.3 wires B L=551±3mm [2pcs.]			JIG	1. Insertion jig 2. Locking jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION			TOOLS/PPE	QUALITY POINTERS
7	P1	<div> Wire facing</div> <div> 1. Get the 1st Black wire then insert to terminal slot 1 of connector using right hand. <i>Note: Insertion of wires must be from left to right</i></div> <div> 2. Get the 2nd Black wire then insert to terminal slot 2 of connector using right hand.</div> <div> 3. After insertion, push the lock using left thumb and then hold the wires and gently pull out the connector from jig using right hand.</div>			n/a	<div>1. No loose insertion 2. No wrong insertion 3. One by one insertion 4. No deformed terminal 5. No wrong wire facing</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.</div> <div>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</div>

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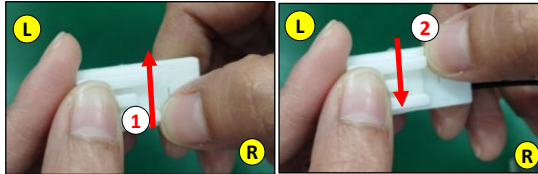





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PARTS:		n/a		JIG	1. Locking jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
8	P1	Connector Lock			
		<div><div><p>1. Load the connector into the jig holding both side of the connector, tip first.</p></div><div><p>2. Press 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><p>LOCKING JIG</p></div><div><div><p>Before pressing</p></div><div><p>After pressing</p></div></div><div><div><p>Full Lock</p></div><div><p>Half Lock</p></div></div><div><div><p>GOOD</p></div><div><p>NG</p></div></div><div><p>Important reminders/Note/s:</p><p>1. MANUAL LOCKING MAY CAUSE DAMAGED CONNECTOR</p><p>1. Use the provided jig tool to lock the connector.</p><p>2. No unlock/half-locked connector</p></div></div>			

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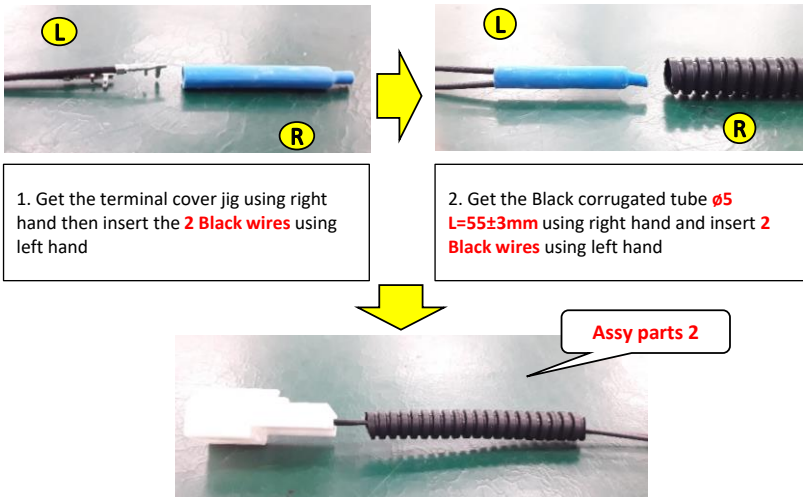

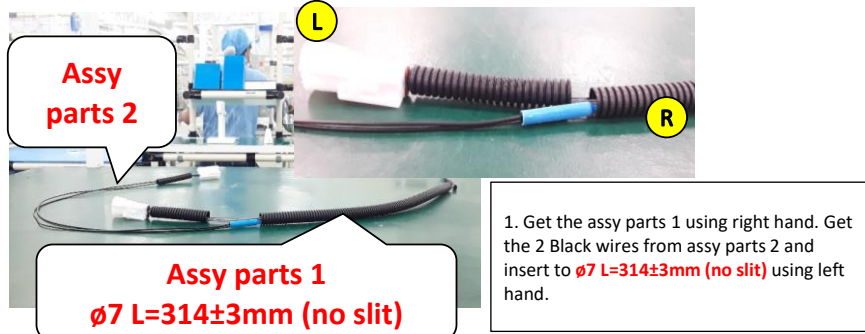

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PARTS:		1. Black Corrugated tube $\varnothing 5$ L=55 \pm 3mm (no slit) 2. Assy parts 1 (G-B/W wire with 2 inserted COT $\varnothing 7$ L=314 \pm 3mm (no slit) ; $\varnothing 7$ L=61 \pm 3mm (no slit) and Connector 6188-0407 (W) 3. Assy parts 2 (2 Black wires with inserted Connector 6098-3802 (W) and COT $\varnothing 5$ L=55 \pm 3mm (no slit)			JIG	1. Terminal cover jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION			TOOLS/PPE	QUALITY POINTERS
9	P1	 <p>1. Get the terminal cover jig using right hand then insert the 2 Black wires using left hand</p> <p>2. Get the Black corrugated tube $\varnothing 5$ L=55\pm3mm using right hand and insert 2 Black wires using left hand</p> <p>Assy parts 2</p>			<p>TERMINAL COVER JIG</p> 	<p>1. No wrong use of parts 2. No deformed terminal</p>
10		 <p>Assy parts 2</p> <p>Assy parts 1 $\varnothing 7$ L=314\pm3mm (no slit)</p> <p>1. Get the assy parts 1 using right hand. Get the 2 Black wires from assy parts 2 and insert to $\varnothing 7$ L=314\pm3mm (no slit) using left hand.</p>			<p>TERMINAL COVER JIG</p> 	<p>1. No wrong insert to assy 2. No deformed terminal</p>

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PROTOTYPE



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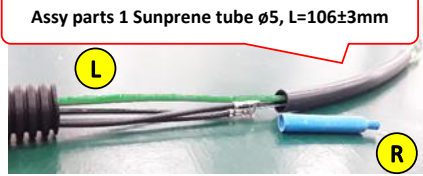



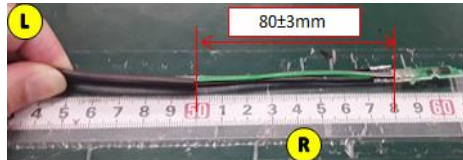
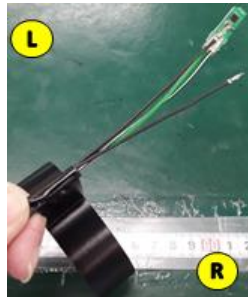
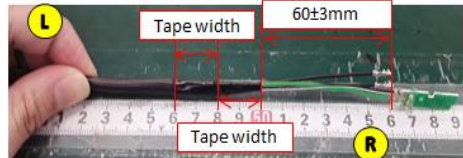

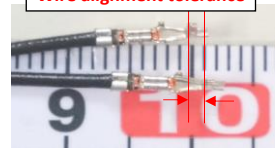
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PARTS:		1. Assy parts 1 and 2 2. Black tape		JIG	1. Terminal cover jig	
NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
10	P1	Wire insertion to assy parts 1 (continuation)	<div><div><p>2. Remove the terminal cover jig using right hand after insertion to COT.</p></div><div><p>3. Hold the 2 Black wires and insert to Sunprene tube of assy parts 1 $\phi 5$ L=106± 3mm using left hand.</p></div><div></div></div> <div>Assy parts 1 Sunprene tube $\phi 5$, L=106± 3mm</div> <td>TERMINAL COVER JIG </td> <td>1. No wrong insertion to assy 2. No deformed terminal</td>		TERMINAL COVER JIG 	1. No wrong insertion to assy 2. No deformed terminal
11		Taping 1 Sunprene tube to wire near terminal/Hotmelted wire	<div><div><p>1. Measure from end of sunprene tube up to end of terminal pointed tip and edge of hotmelted wire 80± 3mm using both hands.</p></div><div><p>2. Hold the vinyl tube using left hand, get the Black tape then start taping using both hands.</p></div><div><p>3. After taping, check the measurement, wire alignment & tape condition.</p></div></div> <div>MEASURING TAPE </div> <div>Wire alignment tolerance </div> <td>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.</td>		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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WORK INSTRUCTION

Effectivity Date:

April 26, 2023

Process Name/Title: **TAPING ASSEMBLY PROCESS**

Validity Date:

n/a

Model Code/Product Number: **241B / 7L0048-7023**

Customer: **TRQSS**

Document No.:

WI-ENG-PDE-452A

Purpose: ☐ PROTOTYPE

☐ PRE-LAUNCH

☒ MASSPRO

Revision No.:

4

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PARTS:

1. Assy parts

JIG

1. Terminal cover jig



QUALITY CHECKPOINTS

P1

7L0048-7023



GOOD



NO GOOD

① **No UNLOCKED Coupler (white)**

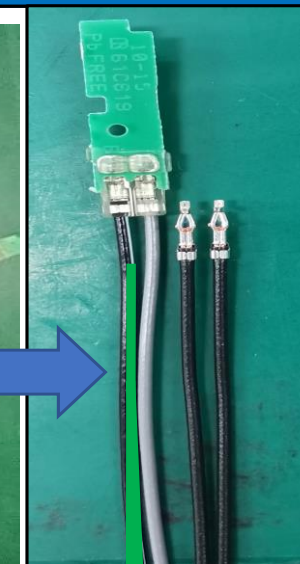
② ③

No Wrong Insert

No TBO

④

No Missing Tape



Proper Alignment of B-B wires and Hotmelt

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