



WORK INSTRUCTION

TAPING ASSEMBLY PROCESS

Effectivity Date:

February 06, 2024

Process Name/Title:

Validity Date:

n/a

Model code/Part number:

930B / 7N0202-7020A

Customer: TRJ

Car Model: TOYOTA 4RUNNER

Document No.:

WI-ENG-PDE-793

Purpose:

☐ PROTOTYPE☐ PRE-LAUNCH☒ MASSPRO

Revision No.:

1

Page No.:

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PARTS:		1. Connector 6189-0451 (W) 2. MR SW CP TVSSf 0.3 G wires L=591±3mm 3. MR SW CP TVSSf 0.3 B/W wires L=591±3mm				4. Black Corrugated tube (No slit) ø7, L=520±5mm				JIG:		1. Terminal cover jig																																	
NO.		PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION						TOOLS/PPE		QUALITY POINTERS																																	
1		P1 TABLE LAY-OUT		<div>TABLE LAY-OUT</div> <div>Safety Instruction Be sure to wear required personal protective equipment during operation (gloves, finger cots, etc.)</div> <div>Housekeeping 1. Maintain and always practice 5's. 2. Personal things on the workplace is prohibited. Keep it in your locker.</div> <div>Alert level For any trouble, inform the Assembly Assistant Supervisor or Line Leader for immediate corrective action.</div>						<div>1. No missing parts/tools 2. No excess parts/tools 3. No wrong position of parts/tools</div>																																			
Revision History																																													
<table><thead><tr><th colspan="4"></th><th>Prepared by</th><th>Reviewed by</th><th>Approved by</th><th>Noted by</th></tr></thead><tbody><tr><td>02/06/2024</td><td>1</td><td colspan="2">Change pre-launch to mass pro. Inclusion of table lay-out and separate clamp taping process.</td><td>A.Hernandez</td><td>C.Villanueva</td><td>A. Arañes</td><td>n/a</td></tr><tr><td>01/10/2024</td><td>0</td><td colspan="2">Initial issue.</td><td>A.Hernandez</td><td>C.Villanueva</td><td>A. Arañes</td><td>n/a</td></tr><tr><td>Eff. Date</td><td>Rev. No</td><td colspan="2">Details of Change</td><td>Revised</td><td>Reviewed</td><td>Approved</td><td>Noted</td></tr></tbody></table>																		Prepared by	Reviewed by	Approved by	Noted by	02/06/2024	1	Change pre-launch to mass pro. Inclusion of table lay-out and separate clamp taping process.		A.Hernandez	C.Villanueva	A. Arañes	n/a	01/10/2024	0	Initial issue.		A.Hernandez	C.Villanueva	A. Arañes	n/a	Eff. Date	Rev. No	Details of Change		Revised	Reviewed	Approved	Noted
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Eff. Date	Rev. No	Details of Change		Revised	Reviewed	Approved	Noted																																						
				Est. Date:				January 10, 2024																																					

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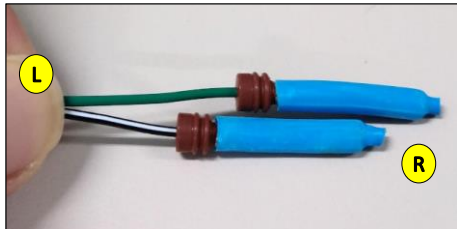


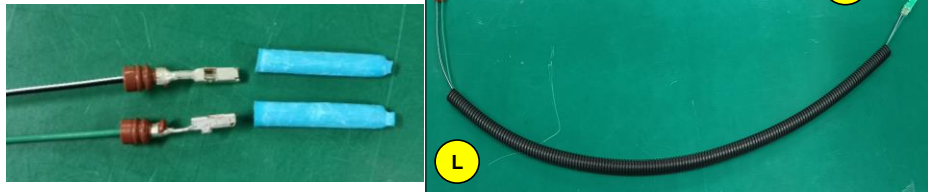
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PARTS:		1. MRSW CP TVSSf 0.3 G wires L=591±3mm 2. MRSW CP TVSSf 0.3 B/W wires L=591±3mm		3. Black Corrugated tube (No Slit) ø7, L=520±5mm	JIG:	n/a
NO.	PROCESS NAME		WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
2	P1	Wire insertion to Black Corrugated tube (No Slit) ø7, L=520±5mm	<div></div> <div>1. Get the MRSW CP TVSSf 0.3 G-B/W wires L=591±3mm using left hand, then get the terminal cover jig using right hand then insert to both terminals (G-B/W wires) using right hand.</div>	<div>TERMINAL COVER JIG</div> <div></div>	1. No wrong usage of parts. 2. No deformed terminal	
			<div></div> <div>2. Get the corrugated tube ø7 L=520±5mm using right hand then insert the G-B/W wires using left hand.</div>			
			<div></div> <div>3. After insertion, remove the cover jig using right hand.</div>			

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NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
3	n/a	<div><div>INSERTION JIG</div><div><div>Wire guide</div><div>Holes</div><div>Wire guide</div><div>Button</div></div><div><div>Wire Facing</div><div>Connector Orientation</div></div><div><div><div>L</div><div>I-Mark</div><div>Press</div></div><div><div>L</div><div>Press</div><div>R</div></div><div><div>R</div><div>Release</div><div>L</div></div></div><div><div>1. Press the lock of insertion jig using left thumb.</div><div>2. Insert the connector 6189-0451 (W) into jig using right hand and release the lock.</div><div>3. Push the guide using right hand. The slot for B/W wire be open.</div></div><div><div>R</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>GOOD</div></div><div><div>I-mark is NOT align</div><div>1 hole is open</div><div>NG</div></div><div><div>1. Use provided jig per model</div><div>2. No wrong usage of parts</div><div>3. No wrong orientation of connector</div><div>4. No damaged connector</div></div></div>

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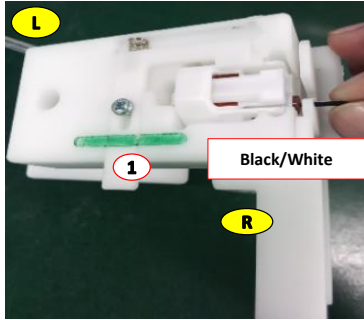
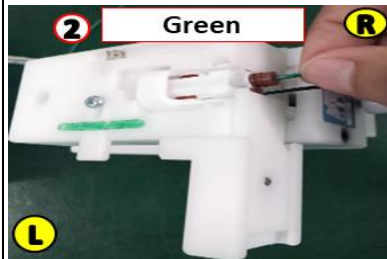
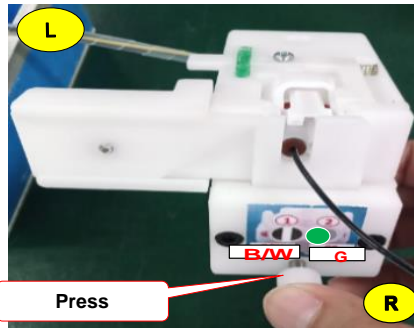
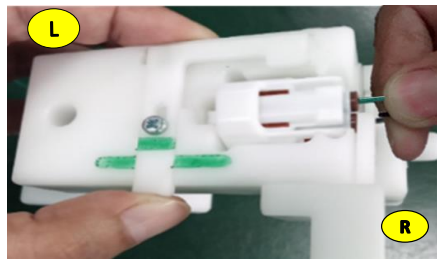
☒ MASSPRO

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PARTS:		1. Assy parts 2. MRSW CP TVSSf 0.3 G wires L=591±3mm 3. MRSW CP TVSSf 0.3 B/W wires L=591±3mm		JIG:	1. Insertion Locking jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
4	n/a	Wire insertion to Connector 6189-0451 (W)	<div></div> <div></div> <div><p>1. Get the B/W wire then insert to terminal slot ① using right hand.</p><p>2. After insertion of B/W wire press the button using right hand. The slot for G wire will be open.</p><p>3. Get the G wire then insert to terminal slot ② 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> <div></div> <div>n/a</div> <div><p>1. No wrong orientation of connector 2. No wrong use of connector 3. No damaged connector 4. No wrong insertion of wires 5. No loose insertion 6. No wrong insertion 7. One by one insertion 8. No deformed terminal 9. No wrong wire facing</p><p>Important reminder's/Note: 1. Make sure wires are properly inserted. Conduct Pull-Push-Pull-Push after insertion. Do not exert extra force. Please hold the wire near terminal.</p><p>Document references: 1. Refer to WI-PRO-CNC-017 for Wire Strip lenght tolerance. Refer to GL PRO-ASY-029 for pull-push-pull-push procedure</p></div>		

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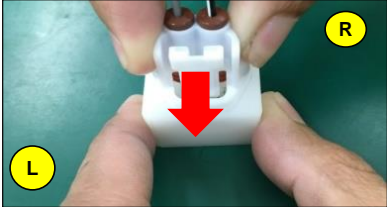

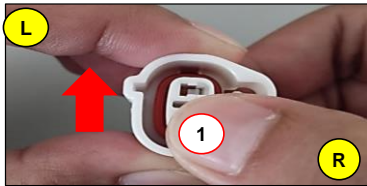





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PARTS:		1. Assy parts		JIG:	1. Locking jig
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
5	n/a	<div><div>1. Put the connector into locking jig using right hand. Then press to lock 2x using both hands.</div></div> <div><div>2. Ensure that connector is in locked condition by slide touching the connector lock based on the sequence illustrated.</div></div> <div><div>Check the double lock deformation</div></div>		<div>LOCKING JIG</div> 	<div>Important reminders/Notes</div> <div>1. Manual locking may cause damaged connector lock</div> <div>1. Use the provided jig per model 2. No unclocked/half-locked connector.</div>

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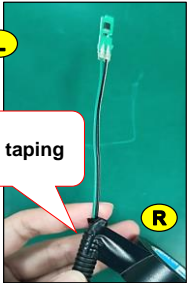
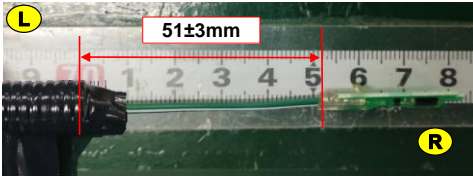

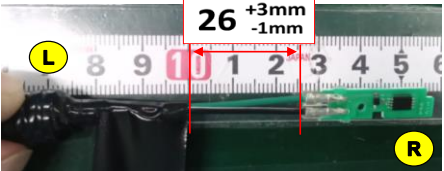
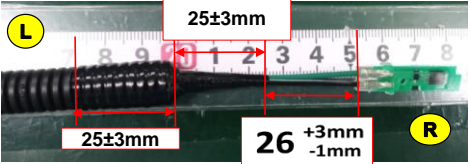

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PARTS:		1. Assy parts 2. Black tape		JIG:	n/a
NO.	PROCESS NAME	WORK PROCEDURE/ ILLUSTRATION		TOOLS/PPE	QUALITY POINTERS
6	n/a Taping 1 Black Corrugated tube to Wire near PCB	<div><p>Start of taping</p></div> <div><p>51±3mm</p></div> <div><p>1. Hold the assy parts using left hand, get Black tape then conduct pre-taping using both hands.</p></div> <div><p>2. Measure from end of COT up to edge of hotmelted wires 51±3mm then continue the taping process using both hands</p></div> <div><p>25±3mm</p></div> <div><p>3. Confirm measurement of 25±3mm from end of tape up to end of COT then continue the taping process using both hands.</p></div> <div><p>26 +3mm -1mm</p></div> <div><p>4. Confirm measurement of 26+3/-1mm from end of tape up to edge of PCB then continue the taping process using both hands.</p></div> <div><p>25±3mm 26 +3mm -1mm</p></div> <div><p>5. After taping, check the measurement and taping condition.</p></div>		<div><p>MEASURING TAPE</p></div>	<p>Important reminders/Notes</p> <p>1. Please use calibrated/verified measuring tape when fetting the measurement.</p> <p>1. No peel-off tape 2. No flip out tape 3. No loose tape 4. No wrong use of tape 5. No wrong dimension 6. No missing tape</p>

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PARTS:

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JIG:

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QUALITY CHECKPOINTS

P1

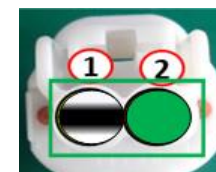
7N0202-7020A



GOOD



NO GOOD



GOOD



NO GOOD

1

No **WRONG INSERT**

No **UNLOCKED/HALFLOCKED**
NO **TBO**

2

No **Missing Tape**
(COT to wire near PCB)

3

No **DEFORMED TERMINAL/PCB**

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